INSTRUMENT SHOP
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INSTRUCTION MANUAL

SI 501
Telegraph Signal
DISTORTION MEASURING SET
Model DMS-3C-Series
(EXCLUDING DMS-3C-13)

ATLANTIC RESEARCH
A DIVISION OF THE SUSQUEHANNA CORPORATION

TELEPRODUCTS DEPARTMENT

SHIRLEY HIGHWAY AT EDSALL ROAD
ALEXANDRIA, VIRGINIA 22314

Price: $2.50

SPECIFICATIONS AND INSTRUCTIONS

SI 501
Telegraph Signal
DISTORTION MEASURING SET
Model DMS-3C-Series
(EXCLUDING DMS-3C-13)

November 1968

Manufactured By
ATLANTIC RESEARCH CORPORATION
Teleproducts Department
Alexandria, Virginia

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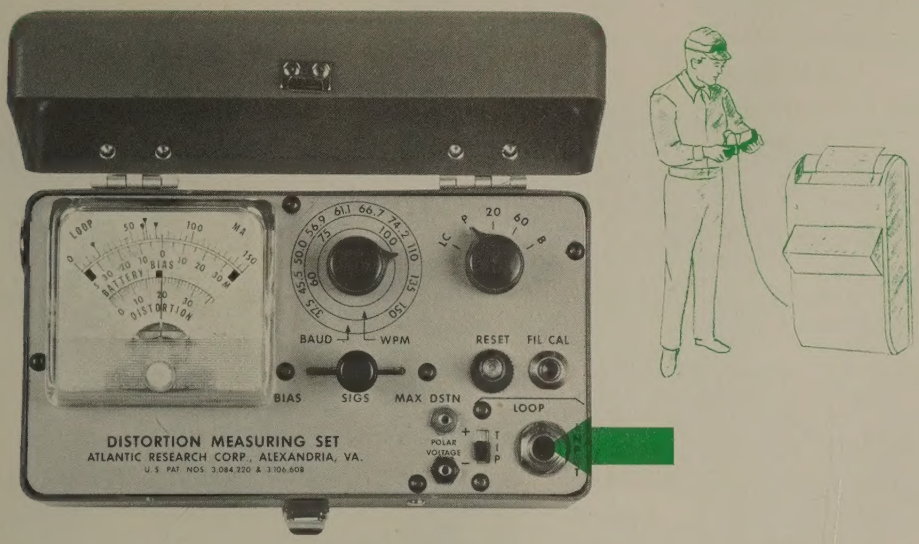

DISTORTION MEASURING SET
DMS-3 SERIES

- Measures average bias and total distortion
- Completely solid state
- Up to 11 different transmission speed settings available
- Accurate loop-current measurement
- Normally battery-operated or with accessory ac power supply, Model PS-2
- Battery condition indicator
- Reversing switch changes polarity of input signals without opening telegraph circuit
- FIL/CAL switch facilitates calibration or removal of filter when checking extreme transient conditions
- EIA or MIL-STD-188B (polar voltage) input for bridged measurements

The DMS-3 is a short-pulse instrument which fits conveniently into the maintenance man's repair kit. It is designed for simple operation in making teleprinter and data set station measurements. As normally furnished, the set is battery operated; however, the Model PS-2 ac power supply is available and may be directly substituted for the battery either at the factory or in the field.

For BIAS measurements, the meter indication will follow changing signal conditions, permitting accurate adjustment of terminal equipment and teleprinter bias controls. MAX DSTN readings hold for a considerable length of time until reset. The SIGS setting provides a means for observing the line condition, idle (marking), open (spacing), or incoming signals (alternating meter indication). When the PS-2 power supply is used, the lamp in the RESET switch will also indicate the line condition.

The polar voltage input feature provides for measurements at a data subset interface.

DMS-4 series sets offer all the features of the DMS-3 for higher signal speeds up to 2500 baud.

ATLANTIC RESEARCH

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U.S. AND FOREIGN PATENTS ISSUED AND PENDING

SPECIFICATION 1011D, APRIL 1968

SPECIFICATIONS

INPUT SIGNALS ACCEPTED	See Model Variations. Polar (>10 mA) Neutral (20 - 150 mA) EIA or MIL-STD-188B
Speeds	20 to 300 baud, standard, 11 discrete speed selections (higher speeds available)
Code Formats	All, including start-stop or synchronous
PRECISION	± 2-1/2 percent distortion (up to 30 percent)
INPUT IMPEDANCE	
Loop Input	60 ohms noninductive, shunted with 11 microfarads nonpolar capacitor (FIL switch removes capacitor for bounce measurements)
Polar Voltage Input	68,000 ohms
DIRECT-READING METER	
Size	2-1/2 inch dial
Calibration	Bias (center reading): 30 percent Space to 30 percent Mark Total distortion: 0 percent to 35 percent Loop current: 0 to 150 milliamperes Battery life: new, good, 8 hours, or bad Signals: space or mark
WEIGHT	2 pounds
SIZE	3-1/2 inches by 6-1/4 inches by 3-5/8 inches (including protective panel cover)*
BATTERY LIFE	100 hours intermittent use
OPTIONAL ACCESSORY	Power Supply PS-2 (ac)

*The DMS-3-9 has a larger cover to hold an input card. It measures 3-7/8 by 6-1/2 by 4-3/8 inches.

MODEL VARIATIONS

Model Variation Number			-2	-3	-4	-6	-7	-9	-10	-11	-12	-13	-14	-15
SPEED (baud)		20.0 (for dialing checks)				X								
		37.5 (military crypto)	X	X	X	X	X		X	X	X			
		45.5 (60 wpm, 5-level; 53 wpm, 6-level)	X	X	X	X	X	X	X	X	X	X	X	X
		50.0		X	X	X	X		X	X	X	X	X	X
		56.9 (75 wpm, 5-level; 66 wpm, 6-level)	X	X	X	X	X	X	X	X	X			X
		61.1 (military crypto)	X	X	X	X	X		X	X	X			X
		66.7		X					X					X
		74.2 (100 wpm, 5-level)	X	X	X	X	X	X	X	X	X			X
		75.0 (100 wpm, 5-level)									X	X	X	
		80.0												X
		96.0											X	
		100					X							
		110 (100 wpm, 8-level)	X	X	X	X	X	X	X	X	X			X
		120					X							
		133.2								X				
		135 (134.46)		X					X					X
		150		X					X					X
		192.0											X	
		Other speeds are available on special order												
INPUTS ACCEPTED	Low-Impedance: Input Current (milliamperes) Polar	10, or greater	X	X	X	X	X	X	X	X	X		X	X
		5										X		
		20	X		X	X	X	X	X	X	X	X		X
		40											X	
	Neutral	60						X				X		
		62.5			X	X	X		X	X	X		X	X
		70	X	X										
		110		X										
	Low Level Input	>65 K Ω input for EIA-RS232 and MIL-188B interfaces	X	X	X	X	X	X	X	X	X		X	X

TELEPRODUCTS DEPARTMENT

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SYSTEMS-PRODUCTS -SERVICE- for Voice Frequency and Data Communications

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Distortion Measuring Set Model DMS-3-3

OPERATING INSTRUCTIONS

Instructions for operation of the DMS-3 are contained in the top of the instrument case, for convenient reference while the Set is in use. It must be emphasized that the DMS-3 is intended for the measurement of miscellaneous transmission, and care must be taken, as described later, in the measurement of repeated characters, short messages, or reversals.

The Operating Instructions are repeated below:

1. a) Connect INPUT jack of the DMS-3 in series with circuit to be measured. If polar signals are to be measured, it is important that the polarity switch be positioned (+ or - TIP) in accordance with the plug polarity. If neutral signals are to be measured, plug polarity may be controlled by the polarity switch for convenience. Operate selector switch to LC (Loop Current) position and if polarity switch is in correct position, meter will indicate average current in loop.

2. Operate selector switch to position B to check battery condition. A new battery will read toward full scale to the left on the BATTERY scale of the meter. The single line indicates an aged battery capable of providing approximately 8 hours of continuous operation. If the reading is in the blocked area, the battery should be replaced (use Burgess Type XX15).

3. The loop current may be accurately measured on the LOOP-MA scale of the meter when the selector switch is in the LC position and the circuit is made idle.

4. Operate the selector switch to the proper loop current setting for the circuit to be measured.

5. Operate the speed switch to the proper setting for the circuit to be measured.

6. When the lever switch is operated to SIGS position, the meter will oscillate if signals are being received, or will display the loop condition as mark (if idle) or space (if open) on the BIAS scale. If the Set is equipped with the optional AC power supply, a constant indication of signals is given by the RESET switch which is also a lamp arranged to light during spacing conditions.

PRECAUTIONARY NOTE: The DMS-3 utilizes mark-space balancing dircuitry requiring that the signals measured contain a miscellaneous arrangement of unit element marks and spaces. The DMS-3 is therefore intended for the measurement of repeated characters or short messages, that one type pulse does not greatly over-balance the other. The Set may be used to make bias adjustments from reversals (dot-cycles) but the total distortion measurement will tend to be a few percent high in the measurement of reversals.

7. Operate the lever switch to the MAX DSTN position, push the RESET switch momentarily, and read the percent total distortion from the DISTORTION scale of the meter. During the measurement process, it is desirable to operate the RESET * switch momentarily from time to time, because with the switch in the DSTN position the meter maintains its highest distortion reading for a period after the distortion level is reduced.

8. To measure bias, operate the lever switch to the BIAS position, and read the percent bias from the BIAS scale of the meter (marking to the right and spacing to the left).

9. FIL/CAL switch may be held operated to remove input filter circuit. Meter will indicate excessive distortion if signals contain bounce or noise.

10. When measurements are completed, remove the plug from the INPUT jack, thereby disconnecting the battery.

* The RESET switch does not normally return the meter to exactly 0% when operated.

CALIBRATION INSTRUCTIONS

Calibration of the DMS-3 should normally be made approximately every six months and after component changes.

A. Equipment Required:

The preferred source of calibration signals is a device capable of producing a FOX MESSAGE without jitter, "holes", or other distortion, and with the capability of introducing controlled amounts of marking and spacing bias up to 30%, without end distortion. The Atlantic Research Test Message Generator Model TMG-15 Series is such a device. The Atlantic Research Test Message Generator Model TMG-2 is a two character generator which may be used in calibrating the DMS-3 using the repeated characters "R", "Y". When using the repeated characters "R", "Y" for calibration, the following adjustment compensation should be made.

1. Adjust "TOTAL DSTN" 2% HIGH at 0% and 30%.
2. Adjust "BIAS" 1% HIGH at 30%.

A teletype transmitter operating with a bias-distorting set may also be used. It is strongly recommended that, prior to the use of any signal source and distorting set for calibration, its signals be checked with the best available teletype distortion analyzing standard, and that any bias or distortion found to be present in the calibration signals be taken into consideration in making any DMS-3 calibration adjustments.

The Atlantic Research Quality Monitor Calibrating Set cannot be used satisfactorily to calibrate the DMS-3 type of Set which utilizes mark-space balancing circuitry requiring the measurement of transmission containing both unit-element marks and spaces. The use of reversals

(dot-cycles) is also to be discouraged as not properly calibrating the DMS-3 for measurement of miscellaneous transmission.

Under normal circumstances the calibration procedure described below should proceed with all potentiometers initially set as they were when the Set was received for calibration. After replacement of a major component, however, or difficulty in making the Set calibrate, it recommended that all calibration potentiometers be initially adjusted to mid-range and then the procedure described below followed step-by-step.

B. Removal of Set from Case:

CAUTION: IF SET IS EQUIPPED WITH 115 V.A.C. POWER SUPPLY, UNPLUG LINE CORD BEFORE REMOVING SET FROM CASE.

1. Remove four screws from the sides of the instrument case. If Set is not equipped with A.C. Power Supply, as panel is slipped out of its case remove the cable hole plug. The Set may then be completely removed from its case.

2. Remove three screws from the large printed-circuit board and carefully fold it away from the Set, laying it upon a well-insulated surface with its component side up. This will permit its calibration potentiometers to be readily adjusted without rotating the Set and disturbing the meter reading. The Set should rest with the panel perpendicular to the bench surface.

CAUTION: IN TESTS WHICH FOLLOW BE CAREFUL OF SHOCK HAZARD - DO NOT TOUCH INPUT JACK TERMINALS, WHICH EXPOSE LOOP BATTERY. IF SET IS EQUIPPED WITH 115 V.A.C. POWER SUPPLY, AVOID CONTACT WITH EXPOSED FUSE CLIPS.

C. Calibration Procedure - Auxiliary Functions

3. If necessary, make mechanical screw adjustment such that meter reads zero on the BIAS scale when the Set is turned off.

4. If A.C. operated, connect line plug to 115 V.A.C. outlet.

5. Insert dummy or unterminated plug in the LOOP INPUT jack (thereby connecting battery or power supply to the DMS-3 circuit).

6. Operate selector switch to position B to check battery condition. A new battery will read toward full scale to the left on the BATTERY scale of the meter. The single line indicates an aged battery capable of providing approximately 8 hours of continuous operation. If the reading is in the blocked area, the battery should be replaced (use Burgess Type XX15). The A.C. power supply should indicate to the left of the aged battery line.

7. Operate the input switch to its LC position. Adjust LC adjust R24 on Board A (the main printed-circuit board) so that the DMS-3 meter reads precisely zero on the milliamp scale.

8. Remove dummy plug, and set up a neutral circuit with means of varying the loop current. Connect in series with the input circuit a milliammeter known to have an accuracy of at least $\pm\frac{1}{2}$ ma.

9. Compare the readings of the DMS-3 meter with those of the standard milliammeter as the current is varied over the full range at which the DMS-3 will be used. If necessary, readjust R24 so that all DMS-3 meter readings are within ± 2 ma. of the correct readings over the entire range.

D. Calibration Procedure - Adjusting Input Triggering and Mark-Space Balance

10. Short the Polar Voltage input jacks, set the input to P (polar) and the Function Lever Switch to SIGS. Insert dummy plug into the LOOP-INPUT jack to close internal battery circuit. Adjust the polar switch point pot R104 CW until meter shows mark, then count turns CCW to make the meter show space. Return the pot CW one half the previous range and leave it alone. The switching range may only be a fraction of a turn, but every effort must be made to leave the pot set at the mid range.

11. Connect DMS-3 Polar Voltage input circuit to source of test signals of ± 6 volts or greater (EIA, RS-232, MIL-188 types in general). Arrange signal source to operate at highest transmission speed at which the DMS-3 will be used.

12. Operate DMS-3 switches to following positions:

    Selector switch to P (Polar)
    Speed switch to correspond to signal source output
    Lever switch to MAX DSTN position
    Slide switch to either + or - TIP

13. Send FOX message or "R" "Y" characters, introducing 20% <u>spacing</u> bias and note reading on DISTORTION scale. Then introduce the same amount of <u>marking</u> bias, and similarly note reading on DISTORTION scale.

14. Using potentiometer "M-S BAL", R11 on Board A adjust for minimum difference between the mark and space readings in step 13. (It is not important what the readings are, but only that they are adjusted to have a difference of 1% or less, and that the difference, if any, be such that the space reading is the higher.)

15. Change input circuit to a neutral condition with loop current precisely adjusted to the highest standard value at which the DMS-3 will be used. Transmit "FOX MESSAGE" or repeated "R" "Y" characters from the signal source at the highest transmission speed at which the DMS-3 will be used.

16. Make sure selector and speed switches are in the proper positions for the signals being received. Lever switch should be in its MAX DSTN position.

17. Sending "FOX MESSAGE" or repeated "R" "Y" characters, introduce 20% spacing bias. Momentarily operate RESET switch, and carefully note the exact meter reading on the DISTORTION scale.

18. Hold operated the FIL/CAL switch, to remove the input filter capacitor from the circuit. Again note the meter reading on the DISTORTION scale with the switch held operated.

19. Repeating steps 17 and 18 as necessary, adjust potentiometer R-102 on Board B (small board behind meter) such that the meter readings are essentially the same (within ½%) when the push-button filter switch is operated or released. It is not important if these readings deviate from the 20% output from the calibration signal source.

20. Repeat steps 16 thru 19, with the loop current adjusted to the lower value at which the DMS-3 will be used, adjusting R103 on Board B as necessary.

E. Calibration Procedure - Measurement Functions

a) Since the measuring circuits average the distortion received, compensation should be made when calibrating from a 2 character generator.

b) When using FOX TEST MESSAGE calibrate as follows.

c) When using "R" "Y" repeated characters for calibration adjust "TOTAL DSTN" 2.0% HIGH at 0 and 30%. Adjust "BIAS" 1.0% HIGH @ 30%.

21. Transmitting unbiased FOX signals at the highest speed, highest neutral current level at which the DMS-3 will be used, and with DMS-3 lever switch in BIAS position, adjust potentiometer R36 on Board A so that the meter reads precisely 0% on the BIAS scale. This adjustment affects all remaining measurements and must be made with care.

22. Adjustment of potentiometer R36 may affect the loop current readings. With circuit idle and standard milliammeter and potentiometer reconnected as in step 8, repeat step 9, readjusting R24 if necessary to meet ±2 ma. tolerance.

23. Repeat step 22, then re-c heck step 23, until interaction between these adjustments is essentially eliminated. Adjust R36 last.

24. Transmit "FOX" as in step 22 and introduce 30% marking bias and adjust R32 on Board A so that the meter reads 30% marking on the BIAS scale. (If 30% is not available, use maximum available, adjusting meter to that reading)

25. Operate lever switch to MAX DSTN position. Transmit unbiased "FOX" signals as before, and adjust R33 until the meter reads precisely 0% on the DISTORTION scale.

26. Introduce 30% spacing bias and adjust R101 on Board B so that the meter reads precisely 30% on the DISTORTION scale. (If 30% is not available, use maximum available, adjusting meter to that reading.)

27. Repeat step 26 then 27 completing with step 26 last, until the interaction effect between these adjustments is reduced to a minimum, at least to the point that adjustment of R33 affects the 30% DISTORTION reading by no more than ½%.

28. After completion of the above described calibration procedure, it is desirable to check the calibration at other speeds and loop current settings. The Set should read within 2½% of the correct value at all settings. It may be necessary to change some of the adjustments made with the highest speed and loop current as a compromise to meet the 2½% specification at all conditions.

29. If A.C. operated, disconnect line plug.

30. Remount Board A on its mounting posts, and replace Set in its case, securing with four screws through the side of the case.

F. Sequence of Potentiometer Adjustments

The following table of potentiometer adjustments is listed to emphasize that the calibration procedure described above must be performed in the sequence given there and as listed below. Note that the interaction effects listed are most applicable when the various potentiometers are near their correct calibration settings.

Potentiometer Designation	Function	Action
R104	2.5 ma Switch Point	Affects entire operation, more effect at higher speeds
R102	60 ma Switch Point	Affects entire operation, more effect at higher speeds
R103	20 ma Switch Point	Affects entire operation, more effect at higher speeds
R11	Mark-Space Balance	Affects all measurements adjustments
R36	Bias Scale - 0%	Linear effect on R32, R101 and R33 adjustments; also affects R24
R24	Loop Current Scale	Slight interaction with R36
R32	Bias Scale - Upscale Readings	Very slight interaction with other adjustments
R101	Distortion Scale - Upscale Readings	Linear effect on R33 adjustment
R33	Distortion Scale - 0%	Slight effect on R101 adjustment

MAINTENANCE INSTRUCTIONS

The Model DMS-3 is a compact, miniaturized instrument for which factory maintenance is normally recommended.

Atlantic Research is quite willing to have the head of Quality Control for its Teleproducts Division confer by telephone regarding trouble in a Set, as certain repair problems can be analyzed in this manner. A schematic drawing of the circuit is included in this manual.

I. INTRODUCTION - General Circuit Description.

The DMS-3C is composed of four basic circuits:

A. The input amplifier which determines the input loop circuit sensitivity range.

B. The measuring circuit which generates a voltage pulse whose amplitude is directly proportional to the degree of distortion in the signal. Two identical measuring circuits are contained for separate mark and space measurement.

C. A differential amplifier to drive the indicating meter. The difference between the average marking distortion and the average spacing distortion gives the bias measurement. Both mark and space distortion signals are fed into one input of the differential amplifier for a total distortion measurement.

D. A voltage regulated power supply to supply a constant 13 volt signal to all circuitry in the DMS.

II. Input Amplifier

A precision 60 ohm resistor, R201, is inserted into the test signal loop via J1. The loop current develops voltage across R201 which is applied to transistor Q1. When the input signal is mark, a positive potential must be present at the base of Q1. Switch S3 reverses the polarity of the input signal where the normal negative tip operation does not exist.

A negative potential is provided to the base of Q1 through switch S1A and resistors R102 and R106 for 60 mA, R103 and R107 for 20 mA, and R104 and R108 for 2.5 mA. These resistors are selected to provide a negative potential at the base of Q1 which equals the positive potential supplied by the loop signal through R203. When the loop signal is at or above its mid (1/2) current value, Q1 will be non-conducting (for the marking input current condition). When the loop current is less than its 1/2 current value, Q1 will be conducting (for the spacing input condition).

Q2 is driven directly from Q1. When Q2 conducts, current is supplied through CR3 and R7 to turn on Q3. The potential at the junction of CR1 and R4 is near -1 volt which is sufficient to turn off Q4. The collector of Q3 is at -13 volts and current is supplied through R13 to turn on Q6. Q5 is turned off due to insufficient current through R16.

Q3 and Q5 collectors are at opposite state, e.g. Q3 is at -13 volts and Q5 is at ground. Q4 and Q6 are in opposite states with the collector of Q6 being at zero volts and the collector of Q4 being at -13 volts.

III. Measuring Circuit

The space measruing circuit is composed of C5, C6, CR10, CR11, CR12, R20 and the selected speed resistor connected to speed switch S2. The mark measuring circuit is composed of C2, C3, CR5, CR6, CR9, R12, and the selected speed resistor switch S2.

In the marking condition, the mark measuring circuit (specifically C2) charges from -13 volts through CR8, R11, Q3 (C), R10, and CR5. When a space pulse is received, Q4 conducts which causes a +13 volt potential to appear at the cathode of CR5. One half of the -13 volt potential is absorbed by C3 which charges through R12. The positive potential (approximately 5 volts) at the cathode of CR5 forward bias CR6 and is discharged through the selected speed resistor toward -13 volts. For marking distortion (marking bias) the space pulse will be short and the positive potential at CR5 will not have been dissipated. When the signal returns marking after the space pulse, Q3 again conducts which snaps the cathode of CR5 to ground and C3 transfers the previous positive charge as a negative pulse through CR9. The space measuring circuit operates in a similar manner. Resistor R11 equalizes the voltage potential supplied to C3 (marking circuit) and C5 (space circuit) and also counteracts the difference in the diode voltage drops of CR6, CR11, as well as variations in other components.

IV. Differential Amplifier

The differential amplifier is composed of two identical channels of amplification. An input pulse from the measuring circuits appears at the base of Q13, is amplified, and is then fed to the high impedance input of Q12. C9 stores this pulse. The output of Q12 is a DC level and is further amplified by Q11 to drive the meter. Transistor string Q8, Q9, and Q10 perform in a like manner. R35 permits a zero balance to equalize the parameter variations between the two parts of the circuit.

A. For bias measurements, the mark measuring pulse is supplied to Q13 and the space measuring pulse is supplied to Q8 through S4A. The output of Q10 and Q11 will be equal for equal amounts of marking and spacing (bias) distortion. If the signal contains more marking bias, the output of Q11 will be more negative than the output of Q10, and the meter will be driven toward the marking bias side of the bias meter scale. Conversely, a spacing bias signal will generate a more negative potential at the output of Q10 than Q11 and the meter will deflect in the opposite direction toward the spacing side of the scale. R32 is used to adjust the current through the meter for calibration at 30%.

B. For total distortion readings, the outputs from both the mark and space measuring circuits are connected to Q13 and a DC reference voltage is supplied to Q8 by R101, R105, and CR101. For zero percent distortion, the reference potential causes Q10 to become more negative than Q11 in order to deflect the meter full scale to the left. As the distortion increases to 20%, Q11 reaches the potential of Q10. Therefore, there is no current through the meter at 20% distortion, and R33 in series with the meter has no effect. R101 is adjusted for proper zero percent distortion reading on the meter. A larger capacitor C10 is switched into the Q12 circuit to hold the charge longer. This causes the Total Distortion reading to hold up scale longer on the meter.

V. Power Supply

The power supply recorder is basically a dual emitter follower with the reference voltage provided by zener diode CR18. The zener current is supplied by R43. In the battery test position, the meter is used to measure the difference between the battery voltage and the regulated output voltage. R205 is the multiplier resistor for the voltmeter circuit. When the voltage across Q14 drops below approximately 1 volt, the regulator circuit ceases to function efficiently. The black area on the battery scale of the meter indicates when the battery is too low for proper operation.

VI. Other Circuits

A. SIGS - In the SIGS position of the meter switch, the meter movement is used as a voltmeter to measure the voltage at the input amplifier (Q3 and Q4) through meter multiplier resistor R6 for mark and R5 for space. The meter will deflect toward the mark or space side of the bias scale to indicate a marking or spacing input signal condition.

B. Loop current measurement is made by measuring the voltage drop across input resistor R201. In this mode, R24 is the voltage multiplier. For zero input loop current, the meter is deflected to the left by the voltage developed by R33 and R24 and which is stabilized by the Q8, Q9, and Q10 amplifier string.

C. Power is supplied to the DMS by the battery through a contact on the input jack, J1, only when a cord is inserted in the jack.

D. Small amounts of noise on the signal are filtered by C201. A larger filter capacitor, C202, may be deleted by operating the filter-in switch, S6, to read distortion caused by excessive relay bounce.

E. The storage capacitors C8, C9 (and C10 on distortion) can be discharged when the reset switch is operated.

DRAWINGS

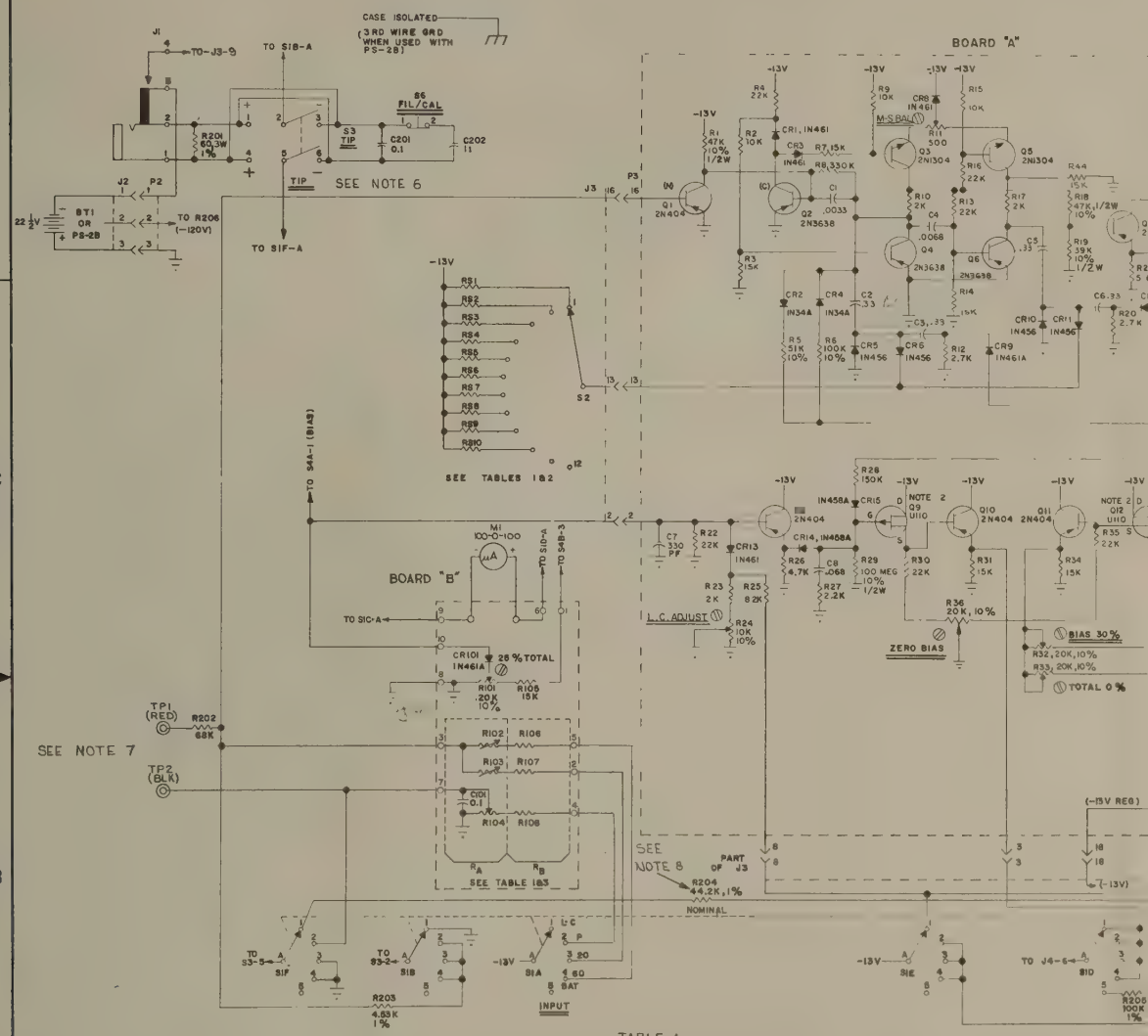


TABLE 1

| MODEL | SPEED : BAUD | | | | | | | | | | | | | | | | | MODEL VARIATIONS | | | | | | | | | | | | | | | | |

REVISIONS					
SYM	DESCRIPTION	DATE	BY	CHK	APPD
A	ADDED SEE NOTE 6&7. INFO FOR DMS-3C-9 TO TABLE 1 PER DCN # 377	12/22/65	FPF	[illegible]	[illegible]
B	CHANGED CONNECTION ON J1-4, FROM J3-10 TO J3-9, CONNECTED J3-4 TO S4C-1, ALSO ADDED NOTE 8 PER DCN # 385	2-15-66	F.G.	[illegible]	[illegible]
C	Q14 & Q15 WERE 2N404; R4 WAS 39K; R3 & R9 WERE 4.7K; R7 WAS 22K PER DCN # 411. ALL UNITS EFFECTED. THOSE IN FIELD WILL BE MODIFIED AT CUSTOMERS REQUEST.	5-17-66	JGJ	[illegible]	[illegible]
D	R3 WAS 10K, R14 & 15 WERE 4.7K, Q4 & 6 WERE 2N404 DELETED CR7 PER DCN # 411 EFFECTS ALL UNITS	6/27/66	JPT	[illegible]	[illegible]
E	ADDED R44 TO BD. "A" PER DCN # 419 EFFECTS ALL UNITS	8-17-66	SJ	[illegible]	[illegible]
F	Q14, Q15 WERE 2N3638 & ADDED DMS-3C-14 TO TABULATION PER DCN # 442	11-29-66	[illegible]	[illegible]	[illegible]
G	DELETED J4 & P4 REF BOARD "B" AS PER DCN #460. AFFECTS ALL UNITS FROM RUN #3449 ON	1-6-67	JJ	[illegible]	[illegible]
H	TABLE 2, 150 BAUD RESISTOR VALUE WAS 43.2 K PER DCN # 479.	5 MAY 67	RJR	[illegible]	[illegible]
J	ADDED DMS-3C-15 MODEL PER DCN # 584	11-3-67	[illegible]		
K	DELETED R42. CR18 WAS INTITA PER DCN # 591.	1-25-68	[illegible]	[illegible]	[illegible]

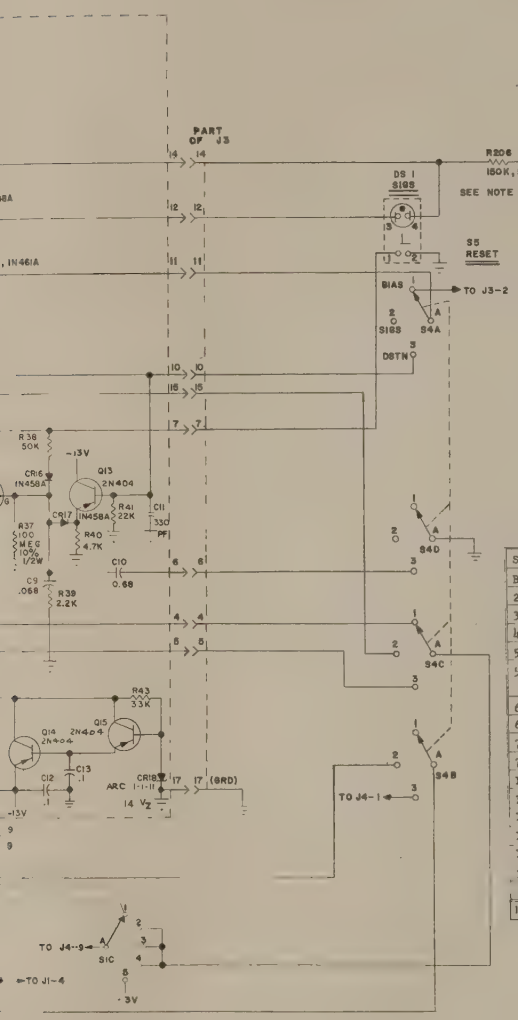


TABLE 2

SPEED TABULATION	
BAUD	VALUE (1%)
20	348K
37.5	182K
45.5	150K
50.0	137K
56.9	120K, ½W, 2%
61.1	110K
66.7	102K
74.2	90.9K
75.0	90.9K
110	60.4K
135	48.7K
150	44.2K
100	66.5K
120	54.9K
133.2	47.5K
96.0	
192.0	

TABLE 3

INPUT TABULATION		
MA	RA (POT)	RB (1%)
P	500	15K 5%
20	50K	49.9K
40	20K	38.3K
60	10K	27.4K
62.5	10K	24.9K
70	10K	19.1K
110	5K	14.7K

NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   A. ALL RESISTANCE VALUES ARE IN OHMS, ½ W, 5%.
   B. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
2. Q9 & Q12 ARE A MATCHED PAIR PER DWG TP-21403425.
3. INPUT SIGNAL MARKING W/POS TIP.
4. S1 SHOWN AS DMS-3C-10; FOR OTHER MODELS SEE TABLE 1.
5. SIGNAL LIGHT FUNCTIONS ONLY WHEN PS-2B IS USED.
6. IN MODEL DMS-3C-9, S3 NOMENCLATURE IS LOOP, NORMAL AND REV. REPLACE – AND + RESPECTIVELY
7. FOR DMS-3C-9 OMIT TP1, TP2 AND R202.
8. R204 TO BE SELECTED AT CALIBRATION

QTY REQD	PART OR IDENTIFYING NO.	ITEM NO.	DESCRIPTION	REF DESIG	MANUFACTURER

LIST OF MATERIALS OR PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES:
ANGLES ± ——
FRACTIONS ± ——
2 PLACE DECIMALS ± ——
3 PLACE DECIMALS ± ——
SURFACE ROUGHNESS ✓

DO NOT SCALE DRAWING

MATERIAL: ——

	BY	DATE
APPROVAL		
DRAWN	F FOSTER	8-5-65
CHECKED	[illegible]	11-2-65
ENGRG		
PROJ ENGRG	[illegible]	11-2-65
STRESS		

APPROVED FOR ATLANTIC RESEARCH
NAME DATE 19
APPROVED
NAME DATE 19

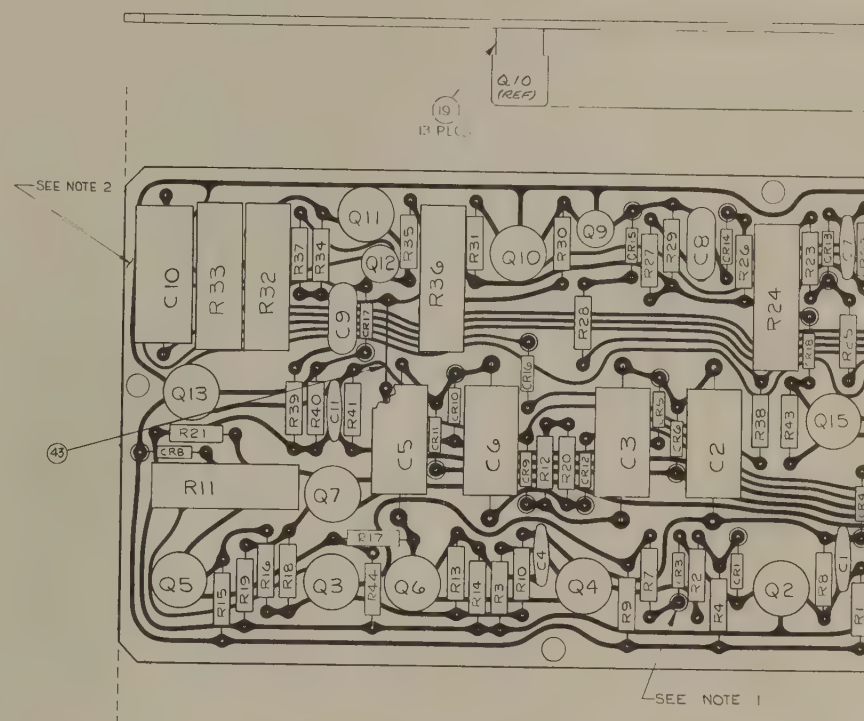
ATLANTIC RESEARCH CORPORATION
TELEPRODUCTS DIVISION
ALEXANDRIA, VIRGINIA

SCHEMATIC DIAGRAM
DISTORTION MEASURING SET
DMS-3C-SERIES (EXCLUDING DMS-3C-13)

U. S. PAT. NOS. 3,084,220 & 3,106,608

CODE IDENT NO.	SIZE		REV
95335	D	TP-SD-4108250I	K LTR
SCALE ——		SHEET ——	

DASH NO	NEXT ASSEMBLY	PROJECT
APPLICATION		



NOTES:

1. CIRCLE ○ INDICATES CATHODE END OF DIODE.
2. DMS-3C-13 ONLY:
   - A. COAT FRONT AND REAR OF PC BOARD, EXCEPT CONNECTOR & POT SCREWS WITH TUFFILM SPRAY.
   - B. C2=C3; C5=C6 ARE AMPEREX, MATCHED TO ±3%

REVISIONS					
SYM	DESCRIPTION	DATE	BY	CHK	APPD
A	ITEM 14 WAS QTY 9 DELETED Q14, Q15 ITEM 23 WAS QTY 2 DELETED R4 ITEM 24 DELETED R7 ADDED R4 ITEM 26 WAS QTY 6 DELETED R3, R9 ITEM 30 WAS QTY 2, ADDED R7 ADDED ITEM 45. REV. PER DCN #411. ALL UNITS EFFECTED. THOSE IN FIELD WILL BE MODIFIED AT CUSTOMERS REQUEST.	5-17-66	JGJ		
B	ADDED NOTE 2, Q4 & 6 WERE 2N404, R14 & 15 WERE 4.7K, AND R3 WAS 10K, DELETED CR7 & ADDED JUMPER; ADDED ITEM 46; ADDED -13 COL. TO PARTS LIST PER DCN #411 EFFECTS SERIAL NUMBERS 1 & UP	6-27-66	JPJ		
C	ADDED R44 & INCREASED ITEM 30 BY 1 PER DCN #419. EFFECTS ALL UNITS	8-17-66	SI		
D	ADDED ITEMS 47, 48; ITEM 14 WAS QTY 5 FOR -13 MODEL & QTY 5 FOR SERIES; ITEM 45 WAS QTY 4 FOR -13 MODEL & 4 FOR SERIES, DELETED JUMPER AND ADDED R44 ON A PERMANENT BASIS, DELETED LINE 42 PER DCN #442.	11-29-66	Lee		
E	DELETED R42. CR18 WAS #IN717A PER DCN 391 AFFECTS ALL UNITS.	1-23-68			

QTY REQ'D	SER	PART OR IDENTIFYING NO.	ITEM NO.	DESCRIPTION
				LIST OF MATERIALS OR
5	-	32664	48	TRANSISTOR, SILICON, # 2N3638
5	-	32652	47	TRANSISTOR, GERMANIUM, SWITCH

REVISIONS - SEE BELOW

QTY REQD	SER	PART OR IDENTIFYING NO.	ITEM NO.	DESCRIPTION	REF DESIG	MANUFACTURER
			16	CAPACITOR, FIXED, FOIL, .33mF, 400WVDC, *C280C/A330K	C2, 3, 5, 6	
			15	TRANSISTOR, SILICON, 2N3638	Q2, Q4, Q6	
			14	Resistor, Fixed, Comp. 33K, 1/2w, 5%, Type GBT	R43	
AR			13	Wire, Copper, Solid, Tinned, #22 AWG,		
			12			
AR			11	[illegible] M SLEEVING #5-13		
1	1		10	Resistor, Fixed, Comp., 51K, 1/2 w, ±5%, Type GBT	R5	D
1	1	30650	9	Resistor, Fixed, Comp., 100K, 1/2 w, ±10%, Type GBT	R6	
1	1	30611	8	Resistor, Fixed, Comp., 8.2K, 1/2 w, ±5%, Type GBT	R25	
1	1	32818	7	Resistor, Variable, WW, 15 Turn, 10K, 1/2 w, ±10%, #3067P-1-103	R24	
			6			
2	2	30677	5	Resistor, Fixed, Comp., 100 MEG, 1/2 w, ±10%, Type GBT	R29, R37	
2	2	30631	4	Resistor, Fixed, Comp., 2.2K, 1/2 w, ±5%, Type GBT	R27, R39	
1	1	30647	3	Resistor, Fixed, Comp., 5.6K, 1/2 w, ±5%, Type GBT	R21	
3	3	32807	2	Resistor, Variable, WW, 15 Turn, 20K, 1/2 w, ±10%, #3067P-1-203	R32, R33, R36	
2	2	30657	1	Resistor, Fixed, Comp., 47K, 1/2 w, ±10%, Type GBT	R1, R18	
6	6	30647	33	Resistor, Fixed, Comp., 15K, 1/2 w, ±5%, Type GBT	R31, R34, R7 R3, R14, R44	
1	1	30689	32	Resistor, Fixed, Comp., 330K, 1/2 w, ±5%, Type GBT	R8	
1	1	32814	31	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%, #3067P-1-501	R11	
3	3	30636	30	Resistor, Fixed, Comp., 2K, 1/2 w, ±5%, Type GBT	R17, R17, R29	
2	2	30645	29	Resistor, Fixed, Comp., 4.7K, 1/2 w, ±5%, Type GBT	R26, R40	
3	3	30693	28	Resistor, Fixed, Comp., 10K, 1/2 w, ±5%, Type GBT	R, 5 R2 R4	C
7	7	30661	27	Resistor, Fixed, Comp., 22K, 1/2 w, ±5%, Type GBT	R9, R13, R16, R22, R30, R35, R41	
1	1	30785	26	Resistor, Fixed, Comp., 39K, 1/2 w, ±10%, Type GBT	R17	
2	2	30681	25	Resistor, Fixed, Comp., 150K, 1/2 w, ±5%, Type GBT	R28, R38	
2	2	30639	24	Resistor, Fixed, Comp., 2.7K, 1/2 w, ±5%, Type GBT	R12, R20	
2	2	33217	23	Socket, Transistor, #R060-103	X09, X012	
13	13	33216	22	Socket, Transistor, #05-3303	XQ1 thru XQ8, XQ10, XQ11, XQ13 thru XQ15	
1	1	32460	21	CAPACITOR, FIXED, CERAMIC DISC, .0033 MFD, 250 WVDC, ±20%, TYPE 20C163	C1	
2	2	32459	20	Capacitor, Fixed, Flat Foil, .1 mfd, 250 WVDC, ±20%, Type C280AE/P100K	C12, C13	
2	2	32710	19	Transistor, P-Channel Diffused Silicone, Unipolar Field-effect, #U-119	Q9, C12	
2	2	32657	18	Transistor, Germanium, #2N1304	Q4, Q5	
—	7	32652	17	Transistor, Germanium, Switching, #2N404	Q1, Q8, Q10, Q11, Q13, Q14, Q15	
1	1	32654	16	Transistor, Germanium, Switching, #2N398A	Q7	
4	4	32514	15	Diode, Silicon, ARC SPEC 1-1-2	CR5, CR6, CR10, CR11	
2	2	32514	14	Diode, Silicon, ARC SPEC 1-1-2	CR12, CR9	B
1	1	32579	13	Diode, Zener, 14V, ±5% w, ARC SPEC 1-1-11	CR18	
2	2	32520	12	Diode, Germanium, ARC Spec 1-2-1	CR2, CR4	
4	4	32518	11	Diode, Silicon, ARC Spec 1-1-1	CR14, CR15, CR16, CR17	
4	4	32514	10	Diode, Silicon, ARC SPEC 1-1-2	CR1, CR3, CR8, CR13	
1	1	32213	9	CAPACITOR, FIXED, METALIZED MYLAR, .68 MFD, 100WVDC, ±10%, TYPE 33 MM	C10	
2		4158	8	Capacitor, Fixed, Flat Foil, .068 mfd, 250 WVDC, ±20%, Type C280AE/P68K	C8, C9	
2		30630	7	Capacitor, Fixed, Ceramic Disc., 330 Pf, 1000 WVDC, ±20%, #50A-T33 (D0C207)	C , C11	
1	1	32457	6	CAPACITOR, FIXED, CERAMIC DISC, .0068 MFD, 500WVDC, ±20%, TYPE 20C255A	C4	
—	4	32220	5	Capacitor, Fixed, Metalized Mylar, .33 mfd, 50 WVDC, Min., ±5%	C2, C3, C5, C6	
1	1	TP-41083501	1	Printed Circuit Board "A"		ATLANTIC RESEARCH

LIST OF MATERIALS OR PARTS LIST

	Q4, Q6, Q2, Q14, Q15	
of 2N404	Q1, Q8, Q10, Q11, Q13	
	REF DESIG	MANUFACTURER

RTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES:
ANGLES ±
FRACTIONS ±
2 PLACE DECIMALS ±
3 PLACE DECIMALS ±
SURFACE ROUGHNESS

DO NOT SCALE DRAWING

MATERIAL:

APPROVAL	BY	DATE
DRAWN	LARRIE LONG	8-6-65
CHECKED	E.S Dare	8/9/65
ENGRG		
PROJ ENGRG	A. Mellen	11-1-65
STRESS		

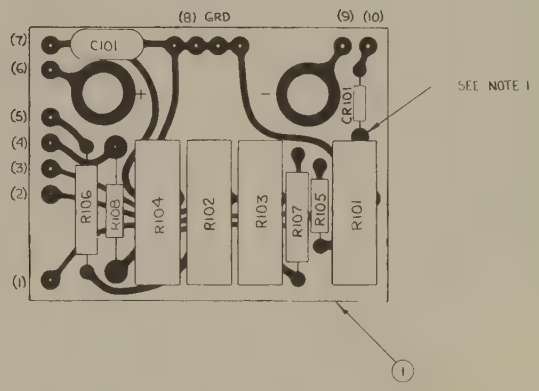
APPROVED FOR ATLANTIC RESEARCH
NAME DATE 19
APPROVED
NAME DATE 19

ATLANTIC RESEARCH CORPORATION
TELEPRODUCTS DIVISION
ALEXANDRIA, VIRGINIA

PRINTED CIRCUIT BD. "A" ASSY
DISTORTION MEASURING SET
DMS-3C SERIES

CODE IDENT NO	SIZE		REV
95335	D	TP-AD-41084501	E
SCALE 2/1			SHEET —

—	TP-FA-41123503	DMS-3C-13
—	TP-FA-41081501	DMS-3CSER
DASH NO	NEXT ASSEMBLY	PROJECT
APPLICATION		



NOTE:

1. CIRCLE ○ INDICATES CATHODE END OF DIODE.

TABULATION TABLE

MODEL	REQ'D DASH NO.	R102	R103	R104	R106	R107	R108
DMS-3C-1	-1	10K	50K	500	24.9K	49.9K	15K
DMS-3C-2	-2	10K	50K	500	19.1K	49.9K	15K
DMS-3C-3	-3	5K	10K	500	14.7K	19.1K	15K
DMS-3C-4	-4	10K	50K	500	24.9K	49.9K	15K
DMS-3C-5	-5	10K	50K	500	14.7K	49.9K	15K
DMS-3C-6	-6	10K	50K	500	24.9K	49.9K	15K
DMS-3C-7	-7	10K	50K	500	24.9K	49.9K	15K
DMS-3C-8	-8	10K	50K	500	24.9K	49.9K	15K
DMS-3C-9	-9	10K	50K	500	24.9K	49.9K	15K
DMS-3C-10	-10	10K	50K	500	24.9K	49.9K	15K
DMS-3C-11	-11	10K	50K	500	24.9K	49.9K	15K
DMS-3C-12	-12	10K	50K	500	24.9K	49.9K	15K
DMS-3C-14	-14	10K	50K	500	24.9K	38.3K	15K
DMS-3C-15	-15	10K	50K	500	24.9K	49.9K	15K

REVISIONS					
SYM	DESCRIPTION	DATE	BY	CHK	APPD
C	REDRAWN. IMAGE CHANGED DUE TO ARTWORK REVISION. NO ASSEMBLY CHANGES EFFECTED. PER DCN #460. AFFECTS ALL UNITS FROM RUN NO. 3449 UP.	1-10-67			
D	ADDED DMS-3C-15 TABULATION TO TABLE & L/M PER DCN #584	11-17-67			

QTY REQD	PART OR IDENTIFYING NO.	ITEM NO	DESCRIPTION	REF DESIG	MANUFACTURER
	32807	17	RESISTOR, VARIABLE, WW, 20K, 1/2W, ±10%, 3067P-1-203	R103	
	30384	16	RESISTOR, 38.3K, 1/2W, ±1%	SEE TAB BLOCK	
	30366	15	RESISTOR, 27.4K, 1/2W, ±1%		
	30361	14	RESISTOR, 24.9K, 1/2W, ±1%		
	32810	13	RESISTOR, VARIABLE, CARBON, 50K, .2W, ±20%, 3068P-1-503		
	30397	12	RESISTOR, 49.9K, 1/2W, ±1%		
	30337	11	RESISTOR, 14.7K, 1/2W, ±1%		
	32806	10	RESISTOR, VARIABLE, WW, 5K, 1/2W, ±10%, 3067P-1-502		
	30349	9	RESISTOR, 19.1K, 1/2W, ±1%		
	32808	8	RESISTOR, VARIABLE, WW, 10K, 1/2W, ±10%, 3067P-1-103		
	30657	7	RESISTOR, 15K, 1/2W, ±5%		
	32814	6	RESISTOR, VARIABLE, 500Ω, 1/2W, ±10%, 3067P-1-501	SEE TAB BLOCK	
	30657	5	RESISTOR, 15K, 1/2W, ±5%	R105	
	32807	4	RESISTOR, VARIABLE, WW, 20K, 1/2W, ±10%, 3067P-1-203	R101	
	32459	3	CAPACITOR, 0.1 MFD, 250WVDC, ±20%, C280AE/P100K	C101	
	32514	2	DIODE, SILICON, ARC SPEC 1-1-2	CR101	
	TP-41085501	1	PRINTED CIRCUIT BOARD "B"		ATLANTIC RESEARCH

-15 -14 -12 11 10 9 8 7 6 -5 4 3 2 -1

LIST OF MATERIALS OR PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES.
ANGLES ± -
FRACTIONS ±
2 PLACE DECIMALS ±
3 PLACE DECIMALS ±
SURFACE ROUGHNESS

DO NOT SCALE DRAWING

MATERIAL:

APPROVAL	BY	DATE
DRAWN		1 7 67
CHECKED		11-67
ENGRG		11-67
PROJ ENGRG		
STRESS		

APPROVED FOR ATLANTIC RESEARCH
NAME DATE 19
APPROVED
NAME DATE 19

ATLANTIC RESEARCH CORPORATION
TELEPRODUCTS DIVISION
ALEXANDRIA, VIRGINIA

PRINTED CIRCUIT BD "B" ASSEMBLY

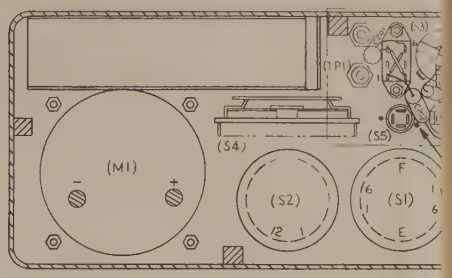
DISTORTION MEASURING SET
DMS-3C SERIES (EXCLUDING DMS-3C-13)

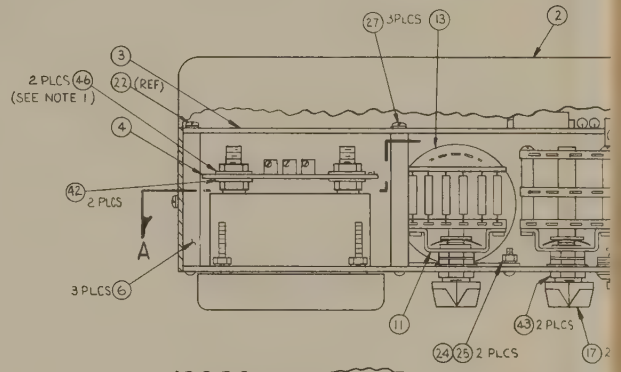
CODE IDENT NO.	SIZE		REV
95335	D	TP-AD-41086501	D LTR
SCALE 2/1			SHEET

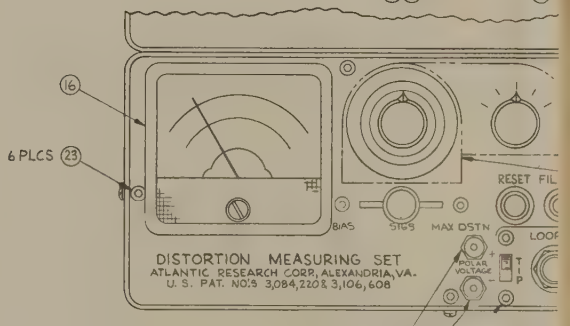
DASH NO	NEXT ASSEMBLY	PROJECT
APPLICATION		
-	TP-FA-41123503	DMS-3C-13
-	TP-FA-41081501	DMS-3C SER.

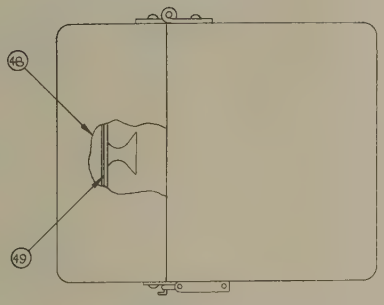
COMPONENT DESIGNATION			
REF.DESIG.	ITEM	FROM	TO
R201	35	J1, PIN 1	J1, PIN 2
C202	36	S6	S3, PIN 1
C201	37	S3, PIN 6	S3, PIN 3
STRAP	44 & 45	S3, PIN 6	S3, PIN 1
STRAP	44 & 45	S3, PIN 3	S3, PIN 4

SECTION A-A

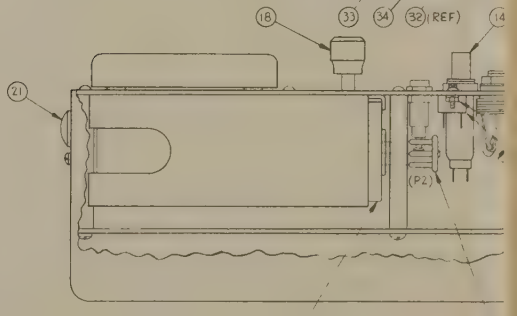






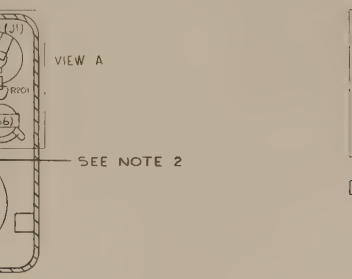


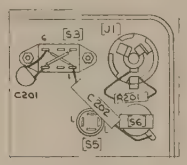
DMS-3C-9 & -1 OPTION

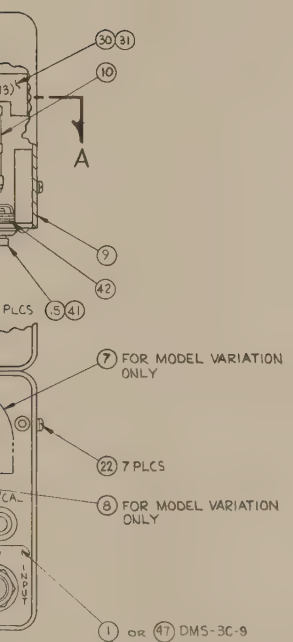


NOTES:
1. WASHERS FURNISHED WITH METER, TO BE REPLACED WITH WASHERS IN ITEM 46.
2. INDICATES LAMP CONTACTS ON S5.

REVISIONS					
SYM	DESCRIPTION	DATE	BY	CHK	APPD
A	ADDED -9 COLUMN PER DCN #377	12-22-65	FPF	[illegible]	[illegible]
B	ADDED VIEW "A", DELETED ITEM 33-34 FROM 3C-9 PER DCN #407	5/5/66	F P F	[illegible]	[illegible]
C	B-4 , ADDED -1 OPTION, PER DCN #417.	6-9-66	I	[illegible]	[illegible]
D	ITEM 5 WAS TERMINAL, EDGE TYPE, BRASS #425872 ITEM 38 WAS TUBING, INSULATION, HEAT SHRINKABLE, GREEN, SIZE 3/16. REVISED PER DCN #460 AFFECTS ALL UNITS FROM RUN #3449 ON.	1-6-67	JJ	[illegible]	[illegible]
E	ITEM 47 WAS DWG NO. TP-DA-40779425 (SHTS 1 & 4) . PER DCN #521	8/15/67	E.R.	[illegible]	[illegible]







CONT. ON SHT 2 OF 2

-9 QTY	3C-SER QTY	PART OR IDENTIFYING NO.	ITEM NO.	DESCRIPTION	REF DESIG	MANUFACTURER
2	2		32	SCREW, MACHINE, SKT, BUTTON HD, STEEL, #3-48NC2 x 1/4LG, BLACK ANODIZE		
1	1	33316	31	Connector, Receptacle, Without Mfg. holes; Natural Color, 18 Positions #582-378-9	J3	
17	17	33338	30	Contact, Duo-Tyne Leaf, #66409-4		
1	1	33160	29	Jack, Telephone; C13 DB	J1	
2	2		28	Fibrewasher, Shoulder, Extruded; #6529		
3	3		27	Washer, Flat, SS; #4		
–	–		26			
2	2		25	Washer, Split Lock, #4, 3/16 O. D., SS		
2	2		24	Nut, Hex., Machine, SS, #4-40NC-2		
6	6		23	Screw, Machine, Skt., BH, Steel, #4-40NC-2 x 1/4 Lg. Black Anodize		
7	7		22	Screw, Machine, BH, SS, #4-40NC-2 x 1/4 Lg		
1	1	33701	21	Snap Button Hole Plug, #41C		
1	1	33407	20	Plug, Battery, #581A	P2	
1	1	33249	19	Battery, Type "B", 22.5 V, #XX15	BT1	
1	1	33115	18	Knob, Plastic, Black, #1750		
2	2	33112	17	Knob, Pointer, Plastic, Black, w/Press Insert #1400		
1	1	33064	16	Meter, 100-0-100 Micro Amp Movement, Type #227PL Meter Face (TP-10475000)	M1	Atlantic Research Corp.
1	1	33556	15	Switch, Pushbutton, Normally Closed, #962	S6	
1	1	33553	14	Switch, Pushbutton, Lighted, (Neon) (Clear), #40-1	S5	
1	1	TP-21426000	13	Switch, Lever	S4	Atlantic Research Corp.
1	1	33578	12	Switch, Slide, DPDT, Type 126 (Swidget)	S3	
1	1	TP-AD-41086425	11	Switch Assembly	S2	Atlantic Research Corp.
1	1	TP-AD-33146501	10	Switch Assembly	S1	Atlantic Research Corp.
1	1	33750	9	Mount, Front Panel, (TP-21371000)		Atlantic Research Corp.
–	1	TP-31147501	8	Speed Input Plate (for model variation only)		Atlantic Research Corp.
–	1	TP-41088501	7	Speed Plate (for model variation only)		Atlantic Research Corp.
3	3	33760	6	Standoff (TP-21521400)		Atlantic Research Corp.
			5			
1	1	TP-AD-41086501	4	Printed Circuit Board Assembly, Board "B"		Atlantic Research Corp.
1	1	TP-AD-41084501	3	Printed Circuit Board Assembly, Board "A"		Atlantic Research Corp.
1	1	TP-DA-40796425	2	Case and Cover Assembly		
–	1	TP-DA-41089501	1	Panel, Front		Atlantic Research Corp.

LIST OF MATERIALS OR PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES:
ANGLES ± ~
FRACTIONS ± ~
2 PLACE DECIMALS ± ~
3 PLACE DECIMALS ± ~
SURFACE ROUGHNESS √
DO NOT SCALE DRAWING
MATERIAL: ~

APPROVAL	BY	DATE
DRAWN	W T Howell	8-4-65
CHECKED	E S Dake	8/6/65
ENGRG		
PROJ ENGRG	R. Walker	11-2-65
STRESS		

APPROVED FOR ATLANTIC RESEARCH _____ NAME _____ DATE 19__
APPROVED _____ NAME _____ DATE 19__

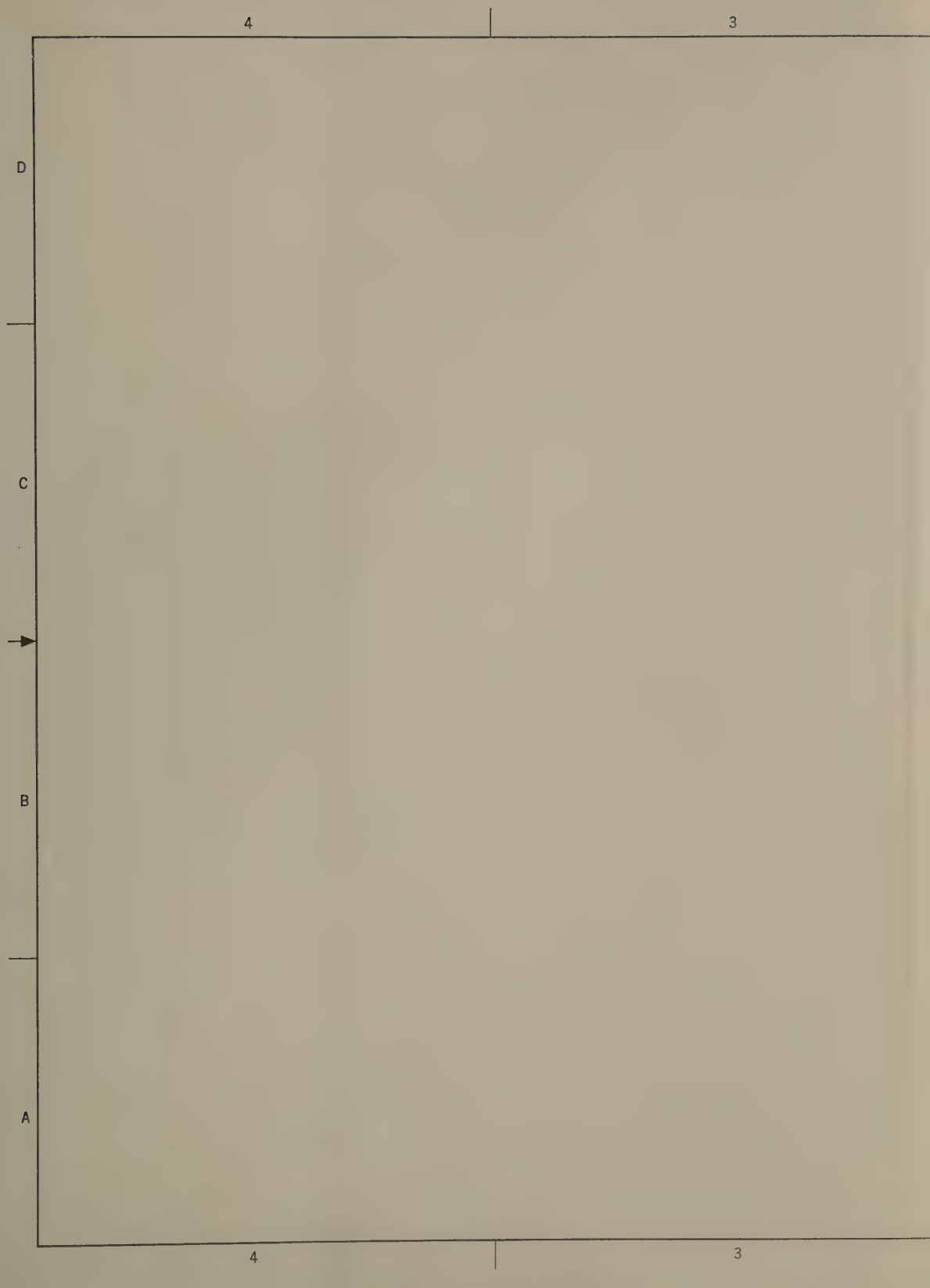
ATLANTIC RESEARCH CORPORATION
TELEPRODUCTS DIVISION
ALEXANDRIA, VIRGINIA

DISTORTION MEASURING SET ASSY

DMS-3C- SERIES
(EXCLUDING DMS-3C-13)

CODE IDENT NO.	SIZE		REV
95335	D	TP-FA-41081501	E LTR
SCALE FULL			SHEET 1 OF 2

DASH NO.	NEXT ASSEMBLY	PROJECT
APPLICATION		


4
3
D
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3

REVISIONS					
SYM	DESCRIPTION	DATE	BY	CHK	APPD

QTY REQD	PART OR IDENTIFYING NO.	ITEM NO.	DESCRIPTION	REF DESIG	MANUFACTURER
1	TP-DA-31144425	49	PLATE, RETAINER, TEST CABLE		ARC
1	TP-AD-31143425	48	CABLE TEST ASSEMBLY		ARC
1	TP DA 4 080501	47	PANEL FRONT		ARC
2	2	46	Washer, Flat, Brass, 265 ID x .500 OD (Ref AN 961-416)		
AR	AR	45	Insulation, Tubing, Teflon, No. 20		
AR	AR	44	Wire, Copper, Solid, Tinned, #22 AWG		
2	2	33786	43	Nut, Hex., 3/8-32NEF, Brass N/P, #P-1000-1	
3	3		42	Lockwasher, Internal Tooth, SS 1/4	
1	1	33723	41	Decorative Nut, 1-32NEF, Brass N/P, #3001023	
2	2		40	Nut, Hex., Machine, SS, #3-48NC-2	
2	2		39	Washer, Split Lock, #3, SS	
			38		
1	1	32160	37	Capacitor, Fixed Ceramic Disc; .1 Mfd, 50 WVDC #33C41 (TG-PIC)	C201
1	1	32100	36	Capacitor, Solid, Tantalum, 11 Mfd, 10 WDC, Non Polar; #KIIW10	C202
1	1	31033	35	Resistor, Fixed, WW; 60 ohms, 3w, ±1%; Type RS-2B	R201
—	1		34	JACK, TEST, BLACK, #4242-127-0	TP2	ELEC. MOULDING CORP
—	1		33	JACK, TEST, RED, #4242-127-2	TP1	ELEC. MOULDING CORP

LIST OF MATERIALS OR PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES:
ANGLES ± ~
FRACTIONS ± ~
2 PLACE DECIMALS ± ~
3 PLACE DECIMALS ± ~
SURFACE ROUGHNESS N
DO NOT SCALE DRAWING
MATERIAL: ~

	APPROVAL	BY	DATE
DRAWN			8-6-65
CHECKED		B.S.Duke	8/6/65
ENGRG			
PROJ ENGRG			8/6/65
STRESS			

APPROVED FOR ATLANTIC RESEARCH _____ NAME _____ DATE 19__
APPROVED _____ NAME _____ DATE 19__

ATLANTIC RESEARCH CORPORATION
TELEPRODUCTS DIVISION
ALEXANDRIA, VIRGINIA

DISTORTION MEASURING SET ASSY

DMS-3C-SERIES
(EXCLUDING DMS-3C-13)

DASH NO	NEXT ASSEMBLY	PROJECT
APPLICATION		

CODE IDENT NO.	SIZE		REV
95335	D	TP-FA-41081501	E LTR
SCALE —			SHEET 2 OF 2

PARTS LIST

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL 501		
SHEET 1 OF SHEETS		
APPROVED		DATE
Proj Engr	[illegible]	12 67
CHECKED	[illegible]	1 68
PREPARED	SAS	

SUBJECT:

DISTORTION MEASURING SET
Model [illegible]5 3C Series

Refer to Addendum Sheets for exact model variations (Speed and Input Values)

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

LTR.	REVISION DESCRIPTION	DATE	APPD.	LTR.	REVISION DESCRIPTION	DATE	APPD.
J	Retyped for Clarity						
K	Deleted ARC Spec Diode from Line 91. Sheets 9 Line 10, 14, Line 8, 15, Line 12, Value was 43 2K Per DCN #479	3 23 67					
L	Changed Drawing No On Sheet 17 Line 1 From TP DA-40779425 To TP DA 11080501, Per DCN 521	8 14 67					
M	ADD SHEET 20 PER DCN #	11 20 67					
N	Deleted Line 127(+4)Line 93 Was Diode 1N717P Per DCN #591	1 29 68					

RECORD OF REVISION STATUS OF EACH SHEET

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J																								
K			K					K					K	K																												
L																L																									
																			M																						
N			N	N																																					

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
TP SD 41082501								Schematic Diagram		1
TP WD-								Wiring Diagram		2
TP 31084425								Power Supply Installation		3
										4
										5
TP FA-41081501	1							Assembly		6
TP DA 41080501 (5 SHTS)		1					1	Panel, Front		7
TP 10559000			1				1	Bracket, Battery		8
			2				2	Rivet, Semi tubular, CSK Head, Aluminum, 3 32 Dia x 5 32 Lg		9
33701		1					1	Snap Button Hole Plug, #41C, Cinch Jones		10
										11
TP SA 40796425		1					1	Assembly, Case & Cover		12
TP-40797425			1				1	Case		13
				1			1	Case, Aluminum, #Z56-104 12, Zero Mfg Co		14
										15
TP 40798425			1				1	Cover		16
33233				1			1	Cover, Aluminum, #Z56 104CF-16, Zero Mfg Co (SEE ADDENDUM FOR MODEL DMS 3C 9		17
										18
33503			1				1	Handle Assembly, Economline, Color Black, #Y-11458, Strap Length 5 1 4 Lg Polished Special Nickel Plated Steel, Style #4825, Philadelphia Handle Co		19
										20
33506			1				1	Latch and Clip Assembly, #340-42 Nielson Hardware Co		21
										22

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 2 OF 19 SHEETS

APPROVED		DATE
Proj. Engr.	[illegible]	2-3-67
CHECKED	[illegible]	2/1/67
PREPARED	SAS	

SUBJECT: DISTORTION MEASURING SET
Model DMS-3C Series

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
33509			2				2	Hinge, Butt, Aluminum, B-56A, Homer D. Bronson Co.		23
			2				2	Screw, Drive, #0 x 1/8 Lg., SS		24
			8				8	Rivet, Semi-Tubular, CSK, Aluminum; 1/8 Dia x 5/32 Lg.		25
			4				4	Rivet, Semi-Tubular; Button Head, Brass N/P; 3/32 Dia. x 9/64 Lg.		26
			4				4	Rivet, Semi-Tubular, Brass N/P , Button Head, 1/8 Dia. x 3/8 Lg.		27
33752			1				1	Nameplate (TP-31007000)		28
										29
TP-AD-31146501		1					1	Switch Assembly	S1	30
33594			1				1	Switch, Rotary, 3 Sections; 2 poles per Section, 6 positions per pole, non- shorting, Type T-226, IRC-CTS.		31
30187			1				1	Resistor, Fixed, Metal Film, 4.53K, 1 2 w, ±1%, Type CEC (T O), IRC.	R203	32
30390 (See Sheet 6 For Information)			1				1	Resistor, Fixed, Metal Film; 4 4.2K, 1/2 w, ±1%; Type CEC (T-O); IRC Nominal Value	R204	33
30437			1				1	Resistor, Fixed, Metal Film, 100K, 1/2 w, ±1%; Type CEC (T-O); IRC	R205	34
30751			1				1	Resistor, Fixed, Comp, 150K, 1/2 w, ±10%; Type GBT, IRC	R206	35
30673 (Omit On Model DMS-3C-9)			1				1	Resistor, Fixed, Comp, 68K, 1/2 w, ±10%; Type GBT; IRC	R202	36
										37
TP-AD-40808425		1					1	Switch Assembly	S2	38
TP-21447000			1				1	Switch , Modified		39
33593				1			1	Switch, Rotary, 1 Section, 1 Pole; 12 positions, Non-Shorting, #CTS-212-T-205, CTS Corporation .		40
								For Speed Resistor Information See Addendum Sheets.		
TP-31059425			1				1	Printed Circuit Board 'C'		41
TP-PC-80142425				1			1	Printed Circuit Artwork, Board 'C'		42
33578		1					1	Switch, Slide; DPDT; Type 126 (Swidget); Continental Wirt Electronics Corp.	S3	43
TP-21426000		1					1	Switch, Lever	S4	44
33631			..				..	Switch, Lever, 3 Position, 4 Pole (Non-Shorting); #185; Oak Mfg. Co.		45
33630			..				..	Switch, Lever, 3 Position, 4 Pole, #6243; Mallory Controls (Option)		46
33553		1					1	Switch, Pushbutton, Lighted, (Neon) , (Clear); #40-1 ; Grayhill Inc.	S5	47
										48
33556		1					1	Switch, Pushbutton; Normally Closed, #962; Switchcraft, Inc.	S6	49
33723		1					1	Decorative Nut, 1/4 -32NEF-2, Brass N/P; #30C1023, Grayhill, Inc.		50
										51
33160		1					1	Jack, Type 'Little-Jax', 2 Conductor; #13 DB, Switchcraft, Inc.	J1	52
		2					2	Fibrewasher, Shoulder, Extruded #6529; General Cement		53
										54
										55
33064			1				1	Meter, 100-0-100 MicroAmp Movement; Type #227 PL, Triplett Electrical Instrument Co. w/Meter Face (TP-10478000)	M1	56
33112		2					2	Knob, Pointer, Plastic, Black w/¼ Brass Insert; #1400, Harry Davies Molding Co.		57

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

TP-810-7-66

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL 501
SHEET 3 OF ____ SHEETS

APPROVED		DATE
	[illegible]	2-3-67
CHECKED	[illegible]	1/1/67
PREPARED	SAS	

SUBJECT: DISTORTION MEASURING SET
Model DMS-3C Series

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
33115		1					1	Knob, Plastic, Black, =1750, Harry Davies Molding Co		58
										59
33407		1					1	Plug, Battery, =5B1A, Cinch Mfg. Co.	P2	60
										61
33250		1					1	Battery, Type 'B', 22.5V, =XX15, Burgess Battery Co.	BT1	62
										63
33760		3					3	Standoff (TP 21521425)		64
33759		1					1	Mount-Front Panel (TP-21374000)		65
										66
										67
32160		1					#2	Capacitor, Fixed, Ceramic Disc, 1 mfd, 50 WVDC, + 80%, -20%, =33C41, (TG-P10), Sprague Electric Co.	C201	68
32100		1					1	Capacitor, Solid, Tantalum, 11 mfd, 10 VDC, ±20%, Non Polar, #K11N10, Kemet	C202	69
										70
										71
31033		1					1	Resistor, Fixed, WW, 60 ohms, 3 w, ±1%, Type RS-2B, Dale Electronics, Inc.	R201	72
										73
										74
33316			1				1	Connector, Receptacle, Without Mtg Holes, Natural Color, 18 Positions, =582 378 9, Amp Incorporated	J3	75
33350				17			17	Contact, Duo-Tyne Leaf, =66149-4 Amp Incorporated		76
33197 (Omit on Model DMS-3C-9)		1					1	Jack, Test, Red =4242 127 2, Electronic Moulding Corp	TP1	77
33198 (Omit on Model DMS-3C-9)		1					1	Jack, Test, Black, 4242 127 0 Electronic Moulding Corp	TP2	78
										79
TP AD-41084501		1						PC Board 'A' Assembly		80
TP 41083501			1				1	Printed Circuit Board A		81
TP PC 80255501				1			1	Printed Circuit Artwork Board 'A		82
										83
32220			4				4	Capacitor, Fixed, Metalized Mylar, 33 mfd, 50 WVDC Min, ±3%, Midwec	C2 C3 C5, C6	84
32457			1				1	Capacitor, Fixed, Ceramic Disc, 0068 mfd, 500 WVDC, ±20%, Type 20C255A, Sprague Electric Co	C4	85
32430			2				2	Capacitor, Fixed, Ceramic Disc, 330 Pf, 1000 WVDC, -20%, =5GA T33 (40C207), Sprague Electric Co	C7, C11	86
32458			2				2	Capacitor, Fixed, Flat Foil, 068 mfd, 250 WVDC, ±20%, C280AE P68K, Amperex Electronics Corp	C8, C9	87
32213			1				1	Capacitor, Fixed, Metalized Mylar, 68 mfd, 100 WVDC, ±10%, Type 33 MM, Wesco Electric Co	C10	88
										89

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 4 OF ____ SHEETS

	APPROVED	DATE
	[signature]	2-3-67
CHECKED	[signature]	2/11/67
PREPARED	SAS	

SUBJECT: DISTORTION MEASURING SET
Model DMS-3C Series

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
32514/			4				4	Diode, Silicon, ARC Spec 1-1-2 or #1N461, Pacific Semi-Conductor	CR1, CR3, CR13, CR8	90
32509			4				4	Diode, Silicon; #1N458A; Sylvania Electronic Products, Inc.	CR14, CR15, CR16, CR17	91
32520 32551			2				2	Diode, Germanium, ARC Spec 1-2-1 or #1N34A, Sylvania Electronic Products, Inc.	CR2, CR4	92
32579			1				1	Diode, Zener, 14 V, ±1/2 w, #ARC Spec 1-1-11	CR18	93
										94
32514/			4				4	Diode, Silicon, ARC Spec 1-1-2 or #1N456, Pacific Semiconductors, Inc.	CR5, CR6, CR10, CR11	95
32514 32501			2				#3	Diode, Silicon; ARC Spec 1-1-2 or #1N461A; Pacific Semiconductors, Inc.	CR9, CR12	96
32654			1				1	Transistor, Germanium, Switching; #2N398A, Radio Corp. of America	Q7	97
32652			7				7	Transistor, Germanium, Switching; #2N404; Sylvania Electronic Products, Inc.	Q1,Q8,Q10,Q11, Q13,Q14,Q15	98
32657			2				2	Transistor, Germanium; #2N1304, Radio Corp. of America	Q3, Q5	99
32614			2				2	Transistor, P-Channel Diffused, Silicon, Unipolar Field-effect; #U-110, Siliconix, Inc.	Q9, Q12	100
								(Matched Pair, see TP-SD 21403425)		
32664			3				3	Transistor, Silicon, #2N3638; Fairchild Semiconductor Corp.	Q2,Q4,Q6	101
32184			2				#3	Capacitor, Fixed, Flat Foil, .1 mfd, 250 WVDC, ±20%, #C280AE/P100K, Amperex Electronic Corp.	C12, C13	102
32400			1				1	Capacitor, Fixed, Ceramic Disc., .0033 mfd, 250 WVDC, ±20%; Type 20C163, Sprague Electric Co.	C1	103
										104
33216			13				13	Socket, Transistor, #05-3303; Elco Corporation	XQ1 thru XQ8, XQ10, XQ11,	105
									XQ13, XQ14, XQ15	
33217			2				2	Socket, Transistor, #8060-1G3, August, Inc.	XQ9, XQ12	106
										107
										108
30639			2				2	Resistor, Fixed, Comp; 2.7K, 1/2 w, ±5%; Type GBT, IRC	R12, R20	109
30785			1				1	Resistor, Fixed, Comp, 39K, 1/2 w, ±10%, Type GBT, IRC	R19	110
30661			7				7	Resistor, Fixed, Comp, 22K, 1/2 w, ±5%, Type GBT, IRC	R4,R13,R16,R22, R30,R35,R41	111
30653			3				3	Resistor, Fixed, Comp, 10K, 1/2 w, ±5%; Type GBT, IRC	R2, R9, R15	112
30645			2				2	Resistor, Fixed, Comp; 4.7K, 1/2 w, ±5%, Type GBT, IRC	R26, R40	113
30636			3				3	Resistor, Fixed, Comp, 2K, 1/2 w, ±5%, Type GBT, IRC	R10,R17,R23	114
										115
										116
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%; #3067P-1-501, Bourns, Inc	R11	117
										118
30689			1				1	Resistor, Fixed, Comp; 330K, 1/2 w, ±5%, Type GBT, IRC	R8	119
30657			6				#7	Resistor, Fixed, Comp, 15K, 1/2 w, ±5%, Type GBT, IRC	R3,R7,R14, R31,R34,R44	120
30757			2				2	Resistor, Fixed, Comp; 47K, 1/2 w, ±10%, Type GBT, IRC	R1, R18	121
32807			3				#4	Resistor Variable, WW 15 Turn, 20K, 1/2 w, ±10%, #3067P-1-203 Bourns, Inc	R32,R33, R36	122

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

TP-0 0-7-66

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL 501
SHEET 5 OF ____ SHEETS

APPROVED		DATE
	[illegible]	2-3-67
CHECKED	[illegible]	[illegible]
PREPARED	SAS	

SUBJECT:
DISTORTION MEASURING SET
Model DMS-3C Series

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
30647			1				1	Resistor, Fixed, Comp; 5.6K, 1 2 w, ±5%, Type GBT, IRC	R21	123
30637			2				2	Resistor, Fixed, Comp, 2.2K, 1 2 w, ±5%, Type GBT, IRC	R27, R39	124
30681			2				2	Resistor, Fixed, Comp, 150K, 1 2 w, ±5%, Type GBT, IRC	R28, R38	125
30777			2				2	Resistor, Fixed, Comp, 100 Meg, 1 2 w, ±10%, Type GBT, IRC	R29, R37	126
										127
32808			1				#2	Resistor, Variable, WW, 15 Turn, 10K, 1 2 w, ±10%, #3067P-1-103, Bourns, Inc.	R24	128
										129
30651			1				1	Resistor, Fixed, Comp, 8.2K, 1 2 w, ±5%, Type GBT, IRC	R25	130
30670			1				1	Resistor, Fixed, Comp, 51K, 1 2 w, ±5%, Type GBT, IRC	R5	131
30665			1				1	Resistor, Fixed, Comp, 33K, 1 2 w, ±5%, Type GBT, IRC	R43	132
30750			1				1	Resistor, Fixed, Comp, 100K, 1 2w, ±10%, Type GBT, IRC	R6	133
TP-AD-41086501		1						Assembly, Printed Circuit Board 'B'		134
TP-41085501			1				1	Printed Circuit Board 'B'		135
TP-PC-80254501				1			1	Printed Circuit Artwork Board 'B'		136
30657			1					Resistor, Fixed, Comp, 15K, 1 2 w, ±5%, Type GBT, IRC	R105	137
32807			1					Resistor, Variable, WW, 15 Turn, 20K, 1 2 w, ±10%, #3067P-1-203, Bourns, Inc	R101	138
32514 32501			1					Diode, Silicon, ARC Spec 1-1-2 or #1N461A, Pacific Semiconductors, Inc	CR101	139
32184			1					Capacitor, Fixed, Flat Foil, .1 mfd, 250 WVDC, ±20%, #C280AE P100K, Amperex Elec. Corp	C101	140
										141
								For Resistor Values of Model Variations See Addemdum Sheets		
		2					2	Washer, Flat, Brass, .265 ID x .500 OD		142
		2					2	Nut, Hex, Machine, SS, #3-48NC-2		143
		2					2	Washer, Split, Lock, #3, SS		144
		7					7	Screw, Machine, PH, SS, #4-40NC2 x 1 4 Lg		145
		6					6	Screw, Machine, Socket, Button Head, Steel, Black Oxide, #4-40NC2 x 1 4 Lg Steel Specialties, Inc		146
		2					2	Screw, Machine, Socket, Button Head, Steel, Black Oxide, #3-48NC-2 x 1 4 Lg Steel Specialties, Inc		147
		2					2	Washer, Split Lock, #4, 3 16 O.D., SS		148
		3					3	Washer, Flat, SS #8		149
		3					3	Lockwasher, internal Tooth, SS 1 4		150
33391		2					2	Nut, Hex, Machine, 3 8-32 NEF, BR NP, P 1000 1, Switchcraft, Inc		151
										152
								BULK MATERIALS ETC		
							As Req'd	Cord Lacing Nylon Flat Braided .090 ± 32 Width MW Finish, 50 lb strength, Spec MIL T 713A Class 1, Type P Alpha Wire Corp		153

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 6 OF 19 SHEETS

		DATE
APPROVED		
	[signature]	2-2-67
CHECKED	[signature]	2/1/67
PREPARED	SAS	

SUBJECT:

DISTORTION MEASURING SET
Model DMS-3C Series

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
							As Req'd	Wire, Copper, Stranded, Tinned, Vinyl Thermoplastic Insulation, No. 26 AWG - - - 7/34 Conductor Strand		154
								.038 Nominal O.D. 600 V Rating MIL-W-16878B. Type B26, Alpha Wire Corp. (Color As Req'd)		
							As Req'd	Solder, Alloy 35/61.5T, 35.5L, #44 Kester Solder		155
							As Req'd	Insulation, Tubing, Teflon, No. 20, Grade TW. #TFT-200/20, Alpha Wire Corp.		156
							As Req'd	Wire, Copper, Solid, Tinned, #22 AWG, Nominal O.D. .025, #298; Alpha Wire Corp.		157
							As Req'd	Tubing, Insulation, Heat Shrinkable, Green, Size 3/16; Rayclad Tubes, Inc.		158
										159
								MFG. REQUIREMENTS & TEST PROCEDURES		
TP-SD-21403425							--	Transistor Matching Circuit		160
										161
										162
										163
								REF R204---		
								Based on 100 Unit Calibration The Following % Distribution Is Resulted.		
30390	✓						52%	Resistor, Fixed, Metal Film; 44.2K, 1/2 w, ±1%; Type CEC (T-O); IRC		
30389							24%	Resistor, Fixed, Metal Film; 43.2K, 1/2 w, ±1%; Type CEC (T-O); IRC		
30391							24%	Resistor, Fixed, Metal Film; 45.3K, 1/2 w, ±1%; Type CEC (T-O); IRC		

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

TP-0 10-7-66

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 7 OF ____ SHEETS

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SUBJECT: DISTORTION MEASURING SET Model DMS-3C-1 — ADDENDUM 1

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
										1
34100		1					1	Speed Plate (TP-41088501)		2
										3
30463			1				1	Resistor, Fixed, Metal Film, 182K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS1	4
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS2	5
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1/2 w, ±1/2%, Type DCC, IRC	RS3	6
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS4	7
30432			1				1	Resistor, Fixed, Metal Film, 90.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS5	8
30411			1				1	Resistor, Fixed, Metal Film, 60.4K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS6	9
										10
										11
										12
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1/2 w, ±10%; #3067P-1-103, Bourns, Inc.	R102	13
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, .2 w, ±20%, #3068P-1-503, Bourns, Inc.	R103	14
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%, #3067P-1-501, Bourns, Inc.	R104	15
30361			1				1	Resistor, Fixed, Metal Film, 24.9K, 1/2 w, ±1%, Type CEC (T-O); IRC	R106	16
30397			1				1	Resistor, Fixed, Metal Film, 49.9K, 1/2 w, ±1%, Type CEC (T-O); IRC	R107	17
30657			1				1	Resistor, Fixed, Comp, 15K, 1/2 w, ±5%, Type GBT, IRC	R108	18
										19
								1 OPTION		
TP-FA-41081501 (Ref Only)								Distortion Measuring Set (Ref Only)		20
TP-AD-31143425		1					1	Cable, Test Assembly		21
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc		22
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS, Mueller Electric Co		23
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		24
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		25
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		26
33792			1				1	Grommet, Fastener, #H559-1-2; The Hartwell Corp		27
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp		28
TP-DA-40798425								Cover		29
33236			1				1	Cover, #Z56-104CF-26		30
TP 21617425			1				1	Bracket, Plate, Retainer		31
				2			2	Rivet, Semi Tub, Flat Hd., Alum, 3 32 Dia x 7 32 Lg		32

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

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TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

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SUBJECT: DISTORTION MEASURING SET Model DMS-3C-2 — ADDENDUM 2

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
										1
34103		1					1	Speed Input Plate (TP-31147501)		2
										3
30463			1				1	Resistor, Fixed, Metal Film, 182K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS1	4
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS2	5
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1/2 w, ±1/2%, Type DCC, IRC	RS3	6
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS4	7
30432			1				1	Resistor, Fixed, Metal Film; 90.9K, 1/2 w, ±1%, Type CEC (T-O); IRC	RS5	8
30411			1				1	Resistor, Fixed, Metal Film, 60.4K, 1/2w, ±1%, Type CEC (T-O); IRC	RS6	9
										10
										11
										12
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1/2 w, ±10%, #3067P 1-103, Bourns, Inc	R102	13
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, 2 w, ±20%, #3068P 1-503, Bourns, Inc	R103	14
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%, #3067P 1-501, Bourns, Inc	R104	15
30349			1				1	Resistor, Fixed, Metal Film, 19.1K, 1/2 w, ±1%, Type CEC (T-O), IRC	R106	16
30397			1				1	Resistor, Fixed, Metal Film, 49.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	R107	17
30657			1				1	Resistor, Fixed, Comp, 15K, 1/2 w, ±5%, Type GBT, IRC	R108	18
										19
								1 OPTION		
TP-FA-41081501 (Ref Only)							--	Distortion Measuring Set (Ref Only)		20
TP-AD-31143425		1					1	Cable Test Assembly		21
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc		22
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-C5, Mueller Electric Co.		23
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		24
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		25
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		26
33792			1				1	Grommet, Fastener, #H559-1-2, The Hartwell Corp		27
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp		28
TP-DA-40798425	--							Cover		29
33236			1				1	Cover, #Z56 104CF 26		30
TP-21617425			1				1	Bracket, Plate, Retainer		31
			2				2	Rivet, Semi-Tub, Flat Hd, Alum, 3-32 Dia x 7-32 Lg.		32

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

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SUBJECT: DISTORTION MEASURING SET Model DMS-3C-3 — ADDENDUM 3

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
30463			1				1	Resistor, Fixed, Metal Film; 182K, 1/2 w, ±1%, Type CEC (T-O); IRC	RS1	1
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS2	2
30450			1				1	Resistor, Fixed, Metal Film, 137K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS3	3
30100			1				1	Resistor, Fixed, Deposited Carbon; 120K, 1 2 w, ±1 2%; Type DCC, IRC	RS4	4
30441			1				1	Resistor, Fixed, Metal Film; 110K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS5	5
30438			1				1	Resistor, Fixed, Metal Film; 102K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS6	6
30432			1				1	Resistor, Fixed, Metal Film; 90.9K, 1/2 w, ±1%; Type CEC (T-O): IRC	RS7	7
30411			1				1	Resistor, Fixed, Metal Film; 60.4K, 1/2 w, ±1%; Type CEC (T-O); IRC	RS8	8
30395			1				1	Resistor, Fixed, Metal Film; 48.7K, 1/2 w, ±1%, Type CEC (T-O); IRC	RS9	9
30390			1				1	Resistor, Fixed, Metal Film, 44.2K; 1/2 w, ±1%; Type CEC (T-O); IRC	RS10	10
										11
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%; #3067P-1-501; Bourns, Inc	R104	12
30657			1				1	Resistor, Fixed, Comp, 15K, 1 2 w, ±5%, Type GRT, IRC	R108	13
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1/2 w, ±10%, #3067P-1-103, Bourns, Inc.	R103	14
30349			1				1	Resistor, Fixed, Metal Film, 19.1K, 1/2 w, ±1%, Type CEC (T-O), IRC	R107	15
32806			1				1	Resistor, Variable, WW, 15 Turn, 5K, 1 2 w, ±10%, #3067P-1-502, Bourns, Inc	R102	16
30337			1				1	Resistor, Fixed, Metal Film, 14.7K, 1/2 w, ±1%, Type CEC (T-O), IRC	R106	17
										18
			1				1	Panel, Front (TP-DA-41080501, Sheet 1 and 3)		19
										20
								-1 OPTION		
TP-FA-41081501 (Ref Only)							--	Distortion Measuring Set (Ref Only)		21
TP AD-31143425		1					1	Cable, Test Assembly		22
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ 055B, #440, Switchcraft, Inc.		23
										24
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-C5; Mueller Electric Company		25
33341			1				1	Insulator, Vinyl, Black, #62; Mueller Electric Company		26
33342			1				1	Insulator, Vinyl, Red, #62; Mueller Electric Company		27
TP DA-31144425		1					1	Plate, Retainer, Test Cable		28
33792			1				1	Grommet, Fastener, #H559-1-2, The Hartwell Corp		29
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp		30
TP DA 40798425		--						Cover		31
33236			1				1	Cover, #Z56-104CF 26		32
TP 21617425			1				1	Bracket, Plate, Retainer		33
				2			2	Rivet, Sem Tub, Flat Hd, Al. n, 3 32 Dia x 7 32 Lg		34

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

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SUBJECT:
DISTORTION MEASURING SET
Model DMS-3C-4
ADDENDUM 4

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
30463			1				1	Resistor, Fixed, Metal Film; 182K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS1	1
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1 2 w, ±1%; Type CEC (T-O); IRC	RS2	2
30450			1				1	Resistor, Fixed, Metal Film, 137K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS3	3
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1 2 w, ±1 2%, Type DCC, IRC	RS4	4
30411			1				1	Resistor, Fixed, Metal Film, 110K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS5	5
30432			1				1	Resistor, Fixed, Metal Film; 90 9K, 1 2 w, ±1%, Type CEC (T-O); IRC	RS6	6
30411			1				1	Resistor, Fixed, Metal Film; 60.4K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS7	7
										8
										9
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1 2 w, ±10%, #3067P-1-501, Bourns, Inc.	R104	10
30657			1				1	Resistor, Fixed, Comp, 15K, 1 2 w, ±5%, Type GBT, IRC	R108	11
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, 2 w, ±20%, #3068P-1-503, Bourns, Inc	R103	12
30397			1				1	Resistor, Fixed, Metal Film, 49 9K, 1 2 w, ±1%, Type CEC (T-O), IRC	R107	13
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1 2 w, ±10%, #3067P 1-103, Bourns, Inc	R102	14
30361			1				1	Resistor, Fixed, Metal Film, 24 9K, 1 2 w, ±1%, Type CEC (T-O), IRC	R106	15
										16
		1					1	Speed Plate (TP-41088501)		17
										18
								-1 OPTION		
TP-FA-41081501 (Ref Only)							--	Distortion Measuring Set (Ref Only)		19
TP-AD-31143425		1					1	Cable, Test Assembly		20
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle Type PJ-055B, #440, Switchcraft, Inc.		21
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS, Mueller Electric Co		22
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		23
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		24
TP-DA 31144425		1					1	Plate, Retainer, Test Cable		25
33792			1				1	Grommet, Fastener, #H559-1-2, The Hartwell Corp.		26
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp		27
TP-DA-40798425		--					--	Cover		28
33236			1				1	Cover, #Z56-104CF-26		29
TP-21617425			1				1	Bracket, Plate, Retainer		30
				2			2	Rivet, Semi Tub, Flat Hd, Alum, 3 32 x 7 32 Lg		31

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

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TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

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SHEET 11 OF ____ SHEETS

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SUBJECT: DISTORTION MEASURING SET Model DMS-3C-5 — ADDENDUM 5

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
										1
		1					1	Speed Plate, (TP-41088501)		2
										3
30463			1				1	Resistor, Fixed, Metal Film, 182K, 1 2 w, ±1%, Type CEC (T-O); IRC	RS1	4
30454			1				1	Resistor, Fixed, Metal Film; 150K, 1 /2 w, ±1%, Type CEC (T-O), IRC	RS2	5
30450			1				1	Resistor, Fixed, Metal Film. 137K, 1 /2 w, ±1%, Type CEC (T-O), IRC	RS3	6
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1 /2 w, ±1 /2%, Type DCC, IRC	RS4	7
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1 /2 w, ±1%, Type CEC (T-O), IRC	RS5	8
30432			1				1	Resistor, Fixed, Metal Film, 90.9K, 1 /2 w, ±1%, Type CEC (T O), IRC	RS6	9
										10
										11
										12
32808			1				1	Resistor, Variable, WW, 15 Turn; 10K, 1 /2 w, ±10%, #3067P-1-103, Bourns, Inc.	R102	13
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, .2 w, ±20%, #3068P-1-503, Bourns, Inc.	R103	14
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1 /2 w, ±10%; #3067P-1-501; Bourns, Inc.	R104	15
30366			1				1	Resistor, Fixed, Metal Film, 27.4K, 1 2 w, ±1%, Type CEC (T-O), IRC	R106	16
30397			1				1	Resistor, Fixed, Metal Film; 49.9K, 1 /2 w, ±1%; Type CEC (T-O), IRC	R107	17
30657			1				1	Resistor, Fixed, Comp, 15K, 1 /2 w, ±5%, Type GBT, IRC	R108	18
										19
								1 OPTION		
TP-FA-41081501 (Ref Only)							--	Distortion Measuring Set (Ref Only)		20
TP-AD-31143425		1					1	Cable, Test Assembly		21
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc		22
33340			2				2	Clip, Alligator, Screw Connector, 2 inches long, Copper, #60-CS, Mueller Electric Co.		23
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		24
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		25
TP DA-31144425		1					1	Plate, Retainer, Test Cable		26
33792			1				1	Grommet, Fastener, #H559-1-2; The Hartwell Corp.		27
33793			1				1	Fastener, Push-Pull, #H-323-2-1-2, The Hartwell Corp.		28
TP DA 40798425							-	Cover		29
33236			1				1	Cover, #Z56-104CF-26		30
			1				1	Bracket, Plate, Retainer		31
				2			2	Rivet, Semi-Tub, Flat Hd, Alum, 3 32 Dia x 7 32 lg		32

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

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SUBJECT: DISTORTION MEASURING SET
Model DMS-3C-6

ADDENDUM 6

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
										1
34101		1					1	Speed Plate (TP-41088501)		2
										3
30492			1				1	Resistor, Fixed, Metal Film; 348K, 1/2 w, ±1%; Type CEC (T-O), IRC	RS1	4
30463			1				1	Resistor, Fixed, Metal Film; 182K, 1/2 w, ±1%; Type CEC (T-O); IRC	RS2	5
30454			1				1	Resistor, Fixed, Metal Film; 150K, 1/2 w, ±1%; Type CEC (T-O), IRC	RS3	6
30450			1				1	Resistor, Fixed, Metal Film; 137K, 1/2 w, ±1%; Type CEC (T-O); IRC	RS4	7
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1/2 w, ±1/2%; Type DCC, IRC	RS5	8
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS6	9
30423			1				1	Resistor, Fixed, Metal Film; 90.9K, 1/2 w, ±1%; Type CEC (T-O), IRC	RS7	10
30411			1				1	Resistor, Fixed, Metal Film; 60.4K, 1/2 w, ±1%; Type CEC (T-O), IRC	RS8	11
										12
										13
										14
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1/2 w, ±10%; #3067P-1-103, Bourns Inc.	R102	15
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, .2 w, ±20%, #3068P-1-503; Bourns, Inc.	R103	16
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%, #3067P-1-501, Bourns, Inc.	R104	17
30361			1				1	Resistor, Fixed, Metal Film; 24.9K, 1/2 w, ±10%, Type CEC (T-O), IRC	R106	18
30397			1				1	Resistor, Fixed, Metal Film, 49.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	R107	19
30657			1				1	Resistor, Fixed, Comp, 15K, 1/2 w, ±5%, Type GBT, IRC	R108	20
										21
								-1 OPTION		
TP FA-41081501 (Ref Only)							--	Distortion Measuring Set (Ref Only)		22
TP AD-31143425		1					1	Cable, Test Assembly		23
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc.		24
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS, Mueller Electric Co.		25
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		26
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		27
TP DA 31144425		1					1	Plate, Retainer, Test Cable		28
33792			1				1	Grommet, Fastener, #H559-1-2, The Hartwell Corp		29
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp		30
TP DA 40798425		--					--	Cover		31
33236			1				1	Cover, #ZS6-104CF-26		32
TP 21617425			1				1	Bracket, Plate, Retainer		33
				2			2	Rivet, Sem. Tub, Flat Hd, Alum, 3 32 D o x 7 32 Lg		34

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 13 OF ____ SHEETS

APPROVED		DATE
CHECKED	[illegible]	2/16/67
PREPARED	SAS	

SUBJECT: DISTORTION MEASURING SET
Model DMS-3C-7

ADDENDUM 7

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
30463			1				1	Resistor, Fixed, Metal Film; 182K, 1/2 w, ±1%; Type CEC (T-O); IRC	RS1	1
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1/2 w, ±1%, Type CEC(T-O), IRC	RS2	2
30450			1				1	Resistor, Fixed, Metal Film; 137K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS3	3
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1/2 w, ±1/2%; Type DCC, IRC	RS4	4
30441			1				1	Resistor, Fixed, Metal Film; 110K, 1/2 w, ±1%, Type CEC (T-O); IRC	RS5	5
30432			1				1	Resistor, Fixed, Metal Film, 90.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS6	6
30417			1				1	Resistor, Fixed, Metal Film, 66.5K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS7	7
30411			1				1	Resistor, Fixed, Metal Film, 60.4K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS8	8
30405			1				1	Resistor, Fixed, Metal Film, 55.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS9	9
										10
										11
										12
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%, #3067P-1-501, Bourns, Inc.	R104	13
30657			1				1	Resistor, Fixed, Comp; 15K, 1/2 w, ±5%; Type GBT, IRC	R108	14
32810			1				1	Resistor, Variable, Carbon, 15 Turn; 50K, .2 w, ±20%; #3068P-1-503, Bourns, Inc.	R103	15
30397			1				1	Resistor, Fixed, Metal Film; 49.9K, 1/2 w, ±1%; Type CEC (T-O), IRC	R107	16
32808			1				1	Resistor, Variable, WW, 15 Turn; 10K, 1/2 w, ±10%; #3067P-1-103, Bourns, Inc.	R102	17
30337			1				1	Resistor, Fixed, Metal Film; 24.9K, 1/2 w, ±1%; Type CEC (T-O); IRC	R106	18
										19
34102		1					1	Speed Plate (TP-41088501)		20
										21
								-1 OPTION		
TP FA-41081501 (Ref Only)								Distortion Measuring Set (Ref Only)		22
TP AD 31143425		1					1	Cable, Test Assembly		23
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc.		24
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS, Mueller Electric Company		25
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		26
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		27
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		28
33792			1				1	Grommet, Fastener #H559 1-2, The Hartwell Corp		29
33793			1				1	Fastener, Push Pull, #H323 2-1-2, The Hartwell Corp		30
TP-DA-40798425								Cover		31
33236			1				1	Cover, #Z56 104CF 26		32
TP-21617425			1				1	Bracket, Plate, Retainer		33
				2			2	Rivet, Semi Tub, Flat Hd, Alum, 3-32 Dia x 7-32 lg.		34

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 14 OF ____ SHEETS

APPROVED		DATE
CHECKED	[illegible]	[illegible]
PREPARED	SAS	

SUBJECT: DISTORTION MEASURING SET
Model DMS-3C-8

ADDENDUM 8

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
30463			1				1	Resistor, Fixed, Metal Film, 182K, 1 2 w, ±1%, Type CEC (T O), IRC	RS1	1
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS2	2
30450			1				1	Resistor, Fixed, Metal Film, 137K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS3	3
30100			1				1	Resistor, Fixed, Deposited Carbon; 120K, 1 2 w, ±1 2%; Type DCC, IRC	RS4	4
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS5	5
30432			1				1	Resistor, Fixed, Metal Film, 90.9K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS6	6
30411			1				1	Resistor, Fixed, Metal Film, 60 4K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS7	7
30390			1				1	Resistor, Fixed, Metal Film; 44.2K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS8	8
										9
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1 2 w, ±10%, #3067P 1-501, Bourns, Inc.	R104	10
30657			1				1	Resistor, Fixed, Comp, 15K, 1 2 w, ±5%, Type GBT, IRC	R108	11
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, .2 w, ±20%, #3068P 1-503, Bourns, Inc	R103	12
30397			1				1	Resistor, Fixed, Metal Film; 49.9K, 1 2 w, ±1%; Type CEC (T-O), IRC	R107	13
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1 2 w, ±10%, #3067P-1-103; Bourns, Inc.	R102	14
30361			1				1	Resistor, Fixed, Metal Film, 24.9K, 1 2 w, ±1%, Type CEC (T-O), IRC	R106	15
										16
		1					1	Speed Plate, (TP-41088501)		17
										18
								1 OPTION		
TP-FA-41081501 (REF)								Distortion Measuring Set (Ref Only)		19
TP AD-31143425		1					1	Cable, Test Assembly		20
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc		21
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS, Mueller Electric Company		22
33341			1				1	Insulator, Vinyl Black, #62, Mueller Electric Company		23
33342			1				1	Insulator, Vinyl Red #62, Mueller Electric Co.		24
TP DA-31144425		1					1	Plate, Retainer, Test Cable		25
33792			1				1	Grommet, Fastener, #H599-1-2, The Hartwell Corp		26
33793			1				1	Fastener, Push Pull, #H323 2 1 2, The Hartwell Corp		27
TP-DA 40798425								Cover		28
33236			1				1	Cover, Z56 104CF 26		29
TP 21617425			1				1	Bracket, Plate, Retainer		30
				2			2	Rivet, Semi Tub, Flat Hd, Alum, 3 32 Dia x 7 32 lg		31

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 15 OF ____ SHEETS

APPROVED		DATE
CHECKED	[illegible]	3/1/67
PREPARED	SAS	

SUBJECT: DISTORTION MEASURING SET Model DMS-3C-10 — ADDENDUM 10

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
TP-DA-41080501 (Sheet 2)		1					1	Panel, Front		1
										2
30463			1				1	Resistor, Fixed, Metal Film, 182K, 1/2w, ±1%, Type CEC (T-O), IRC	RS1	3
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS2	4
30450			1				1	Resistor, Fixed, Metal Film; 137K, 1/2 w, ±1%; Type CEC (T-O), IRC	RS3	5
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1/2 w, ±1/2%, Type DCC, IRC	RS4	6
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS5	7
30438			1				1	Resistor, Fixed, Metal Film; 102K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS6	8
30432			1				1	Resistor, Fixed, Metal Film, 90.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS7	9
30411			1				1	Resistor, Fixed, Metal Film, 60.4K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS8	10
30395			1				1	Resistor, Fixed, Metal Film, 48.7K, 1/2w, ±1%, Type CEC (T-O), IRC	RS9	11
30390			1				1	Resistor, Fixed, Metal Film, 44.2K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS10	12
										13
										14
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%, #3067P-1-501; Bourns, Inc	R104	15
30657			1				1	Resistor, Fixed, Comp, 15K, 1/2 w, ±5%; Type GBT, IRC	R108	16
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, .2 w, ±20%, #3068P-1-503, Boruns, Inc	R103	17
30397			1				1	Resistor, Fixed, Metal Film, 49.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	R107	18
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1/2 w, ±10%; #3067P-1-103, Bourns, Inc.	R102	19
30361			1				1	Resistor, Fixed, Metal Film; 24.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	R106	20
										21
								-1 OPTION		
TP-FA-41081501 (Ref Only)							-	Distortion Measuring Set (Ref Only)		22
TP-AD-31143425		1					1	Cable, Test Assembly		23
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc.		24
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS, Mueller Electric Co.		25
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Co.		26
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Co.		27
TP DA 31144425		1					1	Plate, Retainer, Test Cable		28
33792			1				1	Grommet, Fastener, #H599-1-2, The Hartwell Corp.		29
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp.		30
TP DA 40798425								Cover		31
33236			1				1	Cover, #Z56 104CF-26		32
TP 21617425			1				1	Bracket, Plate, Retainer		33
				2			2	Rivet, Semi Tub, Flat Hd, Alum, 3 32 Dia x 7 32 Lg		34

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 16 OF _____ SHEETS

	APPROVED	DATE
CHECKED	[illegible]	1/16/61
PREPARED	SAS	

SUBJECT:
DISTORTION MEASURING SET
Model DMS-3C-11
SPEED AND INPUT RESISTORS
ADDENDUM 11

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
34116		1					1	Speed Plate (TP-41088501)		1
										2
30463			1				1	Resistor, Fixed, Metal Film, 182K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS1	3
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS2	4
30450			1				1	Resistor, Fixed, Metal Film, 137K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS3	5
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1/2 w, ±1/2%, Type DCC, IRC	RS4	6
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS5	7
30432			1				1	Resistor, Fixed, Metal Film, 90.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS6	8
30411			1				1	Resistor, Fixed, Metal Film, 60.4K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS7	9
30394			1				1	Resistor, Fixed, Metal Film, 47.5K, 1/2 w, ±1%, Type CEC (T-O), IRC	RS8	10
										11
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1/2 w, ±10%; #3067P-1-501; Bourns, Inc.	R104	12
30657			1				1	Resistor, Fixed, Comp, 15K, 1/2 w, ±5%, Type GBT, IRC	R108	13
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, .2 w, ±20%, #3068P-1-503, Bourns, Inc	R103	14
30397			1				1	Resistor, Fixed, Metal Film, 49.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	R107	15
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1/2 w, ±10%, #3067P-1-103; Bourns, Inc.	R102	16
30361			1				1	Resistor, Fixed, Metal Film, 24.9K, 1/2 w, ±1%, Type CEC (T-O), IRC	R106	17
										18
								.1 OPTION		
TP-FA-41081501 (Ref Only)							-	Distortion Measuring Set (Ref Only)		19
TP-AD-31143425		1					1	Cable, Test Assembly		20
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc.		21
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS; Mueller Electric Co.		22
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Co.		23
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Co.		24
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		25
33792			1				1	Grommet, Fastener, #H559-1-2, The Hartwell Corp.		26
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp.		27
TP-DA-40798425		-					-	Cover		28
33236			1				1	Cover, #Z56-104CF-26		29
TP-21617425			1				1	Bracket, Plate, Retainer		30
				2			2	Rivet, Semi-Tub, Flat Hd, Alum, 3 32 Dia x 7 32 lg.		31

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 17 OF ____ SHEETS

APPROVED		DATE
CHECKED		8/1/67
PREPARED	SAS	8-29-66

SUBJECT: DISTORTION MEASURING SET
Model DMS-3C-9
SPEED AND INPUT RESISTORS — ADDENDUM 9

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
TP-DA 41080501 (SHTS 1/2)		1					1	Panel, Front		1
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1 2w, ±10%, Type CEC (T-0), IRC	RS1	2
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1 2 w, ±1 2%, Type DCC, IRC	RS2, RS3, (Ref)	3
30432			1				1	Resistor, Fixed, Metal Film, 99 9K, 1 2 w, ±1%, Type CEC (T-0), IRC	RS4	4
30411			1				1	Resistor, Fixed, Metal Film, 60 4K, 1 2 w, ±1%, Type CEC (T 0), IRC	RS5	5
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1 2 w, ±10%, #3067P-1-103, Bourns, Inc.	R102	6
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, 2 w, ±20%, #3068P-1-503, Bourns, Inc.	R103	7
32814			1				1	Resistor, Variable, WW, 15 Turn; 500 Ohms, 1 2 w, ±10%, #3067P-1-501, Bourns, Inc	R104	8
30361			1				1	Resistor, Fixed, Metal Film, 24 9K, 1 2 w, ±1%, Type CEC (T-0), IRC	R106	9
30397			1				1	Resistor, Fixed, Metal Film; 49 9K, 1 2 w, ±1%, Type CEC(T-0), IRC	R107	10
30657			1				1	Resistor, Fixed, Comp; 15K, 1 2 w, ±5%, Type GBT, IRC	R108	11
TP-FA-41081501 (Ref Only)								Distortion Measuring Set (Ref Only)		12
TP-AD-31143425		1					1	Cable, Test Assembly		13
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc		14
33340			2				2	Clip, Alligator, Screw Connection, 2 Inches Long, Copper, #60-CS, Mueller Electric Co		15
33341			1				1	Insulator Vinyl, Black, #62, Mueller Electric Co		16
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Co		17
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		18
33792			1				1	Grommet, Fastener, #H559-1-2, The Hartwell Corp		19
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp		20
TP-DA-40798425								Cover		21
33236			1				1	Cover, #Z56-104CF 26		22
TP 21617425			1				1	Bracket, Plate, Retainer		23
				2			2	Rivet, Semi-Tub, F bt Hd, Alum, 3 32 Dia x 7 32 Lg		24
								BULK MATERIALS, ETC		
							As Req'd	Wire, Test Lead, Kinkless, Vinyl Insulation 65 36 Strand, Nominal O D 112, #18 AWG Black, #1918, Birnbach Radio Co Inc		25
							As Req'd	Wire, Test Lead, Kinkless, Vinyl Insulation, 65 36 Strand, Nominal O D 112, #18 AWG Red, #1918, Birnbach Radio Co Inc		26
							As Req'd	Tubing, Heat Shrinkable, Black, Minimum I D 191, Nominal Wall Thickness 020 #FIT 275-6, Alpha Wire Corporation		27

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL-501
SHEET 18 OF ____ SHEETS

APPROVED		DATE
CHECKED		
PREPARED	SAS	8-29-66

SUBJECT: DISTORTION MEASURING SET
Model DMS-3C-12
SPEED AND INPUT RESISTORS
ADDENDUM 12

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
										1
		1					1	Spacer Plate (TP-41088501)		2
										3
30463			1				1	Resistor, Fixed, Metal Film, 182K, 1 2 w, ±1%, Type CEC (T-O) IRC	RS1	4
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1 2w, ±1%, Type CEC (T-O), IRC	RS2	5
30450			1				1	Resistor, Fixed, Metal Film, 137K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS3	6
30100			1				1	Resistor, Fixed, Deposited Carbon; 120K, 1 2 w, ±1 2%, Type DCC, IRC	RS4	7
30441			1				1	Resistor, Fixed, Metal Film; 110K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS5	8
30432			2				2	Resistor, Fixed, Metal Film, 90 9K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS6, RS7	9
30411			1				1	Resistor, Fixed, Metal Film, 60.4K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS8	10
										11
										12
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1 2 w, ±10%, #3067P-1-103, Bourns, Inc	R102	13
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, 2 w, ±20%, #3068P-1-503, Bourns, Inc	R103	14
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 Ohms, 1 2 w, ±10%; #3067P-1-501, Bourns, Inc.	R104	15
30361			1				1	Resistor, Fixed, Metal Film, 24 9K, 1 2 w, ±1%, Type CEC (T-O), IRC	R106	16
30397			1				1	Resistor, Fixed, Metal Film; 49 9K, 1 2w, ±1%, Type CEC (T-O), IRC	R107	17
30657			1				1	Resistor, Fixed, Comp, 15K, 1 2 w, ±5%, Type GBT, IRC	R108	18
										19
								-1 OPTION		
TP-FA-41081501 (Ref Only)							--	Distortion Measuring Set (Ref Only)		20
TP-AD-31143425		1					1	Cable, Test Assembly		21
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-005B, #440, Switchcraft, Inc		22
33340			2				2	Clip, Alligator, Screw Connection, 2 Inches Long, Copper, #60-CS, Mueller Electric Co		23
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		24
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		25
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		26
33792			1				1	Grommet, Fastener, #H559-1-2; The Hartwell Corp		27
33793			1				1	Fastener, Push-Pull, #323-2 1-2, The Hartwell Corp		28
TP-DA-40798425								Cover		29
33236			1				1	Cover, #Z56 104CF 26		30
TP-21617425			1				1	Bracket, Plate, Retainer		31
				2			2	Rivet, Semi-Tub, Flat Hd, Alum, 3 32 Dia x 7 32 Lg		32

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL 501
SHEET 19 OF _____ SHEETS

	APPROVED	DATE
CHECKED		
PREPARED	SAS	

SUBJECT:
DISTORTION MEASURING SET
Model DMS-3C-14
ADDENDUM 13

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
										1
34103		1					1	Speed Input Plate (TP 31147501)		2
										3
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS1	4
30450			1				1	Resistor, Fixed, Metal Film, 137K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS2	5
30432			1				1	Resistor, Fixed, Metal Film, 90.9K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS3	6
										7
										8
										9
										10
										11
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1 2 w, ±10%, #3067P-1-103, Bourns, Inc.	R102	12
32809			1				1	Resistor, Variable, Carbon, 15 Turn, 20K, 2 w, ±20%, #3068P-1-203, Bourns, Inc.	R103	13
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1 2 w, ±10%, #3067P-1-501, Bourns, Inc.	R104	14
30361			1				1	Resistor, Fixed, Metal Film, 24.9K, 1 2 w, ±1%, Type CEC (T-O), IRC	R106	15
30384			1				1	Resistor, Fixed, Metal Film, 38.3K, 1 2 w, ±1%, Type CEC (T-O), IRC	R107	16
30657			1				1	Resistor, Fixed, Comp, 15K, 1 2 w, ±5%, Type GBT, IRC	R108	17
										18
										19
								-1 OPTION		
TP-FA-41081501 (Ref)							--	Distortion Measuring Set (Ref Only)		20
TP-AD-31143425		1					1	Cable, Test Assembly		21
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Blk Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc		22
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, #60-CS, Mueller Electric Company		23
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Company		24
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Company		25
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		26
33792			1				1	Grommet, Fastener, #H559 1 2, The Hartwell Corp		27
33793			1				1	Fastener, Push-Pull, #H323-2-1-2, The Hartwell Corp.		28
TP-DA-40798425	--							Cover		29
33236			1				1	Cover, #Z56-104CF-26		30
TP-21617425			1				1	Bracket, Plate, Retainer		31
				2			2	Rivet, Semi Tub Flat Head, Alum. 3 32 Dia x 7 32 Lg		32
										33

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

PARTS LIST

ATLANTIC RESEARCH CORPORATION

TELEPRODUCTS DIVISION — ALEXANDRIA, VIRGINIA

PARTS LIST NO. PL 501
SHEET 20 OF ____ SHEETS

	APPROVED	DATE
PROJ ENG	[signature]	11-20-67
CHECKED	[signature]	11-20-67
PREPARED	E.V.	11-20-67

SUBJECT: DISTORTION MEASURING SET
Model DMS 3C 15 — ADDENDUM 15

SPEED AND INPUT RESISTORS

UNLESS OTHERWISE SPECIFIED ALL REFERENCES TO COMMERCIAL TYPES, STYLES, TRADE NAMES, AND CATALOGS ARE INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND ONLY TO INDICATE THE CHARACTERISTICS OF SATISFACTORY ARTICLES.

DWG. NO., PART NO., OR OTHER IDENTIFICATION	GROUP NO. AND QUANTITY 1	2	3	4	5	6	TOTAL PIECES OR QUANTITY	NOMENCLATURE	REF. DESIG.	ITEM NO.
TP DA 41080501 (Sheet 2)		1					1	Panel, Front		1
										2
			1				1	Resistor, Fixed, Metal Film, 83.5K, 1 2w, ±1%, Type CEC (T-O), IRC	RS1	3
30454			1				1	Resistor, Fixed, Metal Film, 150K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS2	4
30450			1				1	Resistor, Fixed, Metal Film, 137K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS3	5
30100			1				1	Resistor, Fixed, Deposited Carbon, 120K, 1 2 w, ±1 2%, Type DCC, IRC	RS4	6
30441			1				1	Resistor, Fixed, Metal Film, 110K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS5	7
30438			1				1	Resistor, Fixed, Metal Film, 102K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS6	8
30432			1				1	Resistor, Fixed, Metal Film, 90 9K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS7	9
30411			1				1	Resistor, Fixed, Metal Film, 60 4K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS8	10
30395			1				1	Resistor, Fixed, Metal Film, 48 7K, 1 2w, ±1%, Type CEC (T-O), IRC	RS9	11
30390			1				1	Resistor, Fixed, Metal Film, 44 2K, 1 2 w, ±1%, Type CEC (T-O), IRC	RS10	12
										13
										14
32814			1				1	Resistor, Variable, WW, 15 Turn, 500 ohms, 1 2 w, ±10%, #3067P-1-501, Bourns, Inc	R104	15
30657			1				1	Resistor, Fixed, Comp, 15K, 1 2 w, 5%, Type GBT, IRC	R108	16
32810			1				1	Resistor, Variable, Carbon, 15 Turn, 50K, 2 w, ±20%, #3068P-1-503, Bourns, Inc	R103	17
30397			1				1	Resistor, Fixed, Metal Film, 49 9K, 1 2 w, ±1%, Type CEC (T-O), IRC	R107	18
32808			1				1	Resistor, Variable, WW, 15 Turn, 10K, 1 2 w, ±10%, #3067P 1 103, Bourns, Inc	R102	19
30361			1				1	Resistor, Fixed, Metal Film, 24 9K, 1 2 w, ±1%, Type CEC (T O), IRC	R106	20
										21
								-1 OPTION		
TP-FA 41081501 (Ref Only)							---	Distortion Measuring Set (Ref Only)		22
TP AD-31143425		1					1	Cable, Test Assembly		23
33339			1				1	Plug, Jack, 2-Conductor, Screw Terms, Black Plastic Handle, Type PJ-055B, #440, Switchcraft, Inc		24
33340			2				2	Clip, Alligator, Screw Connection, 2 inches long, Copper, #60-CS, Mueller Electric Co.		25
33341			1				1	Insulator, Vinyl, Black, #62, Mueller Electric Co		26
33342			1				1	Insulator, Vinyl, Red, #62, Mueller Electric Co		27
TP-DA-31144425		1					1	Plate, Retainer, Test Cable		28
33792			1				1	Grommet, Fastener, #H599 1 2, The Hartwell Corp		29
33793			1				1	Fastener Push-Pull, #H323-2 1-2, The Hartwell Corp		30
TP DA-40798425								Cover		31
33236			1				1	Cover, #Z56 104CF 26		32
TP 21617425			1				1	Bracket, Plate, Retainer		33
				2			2	Rivet, Sem. Tub, Flat Hd, Alum, 3 32 Dia x 7 32 Lg		34

#Pieces marked as such appear more than once. PIECE TOTAL AMOUNT IS SHOWN ON FIRST LISTING.

WARRANTY

The Distortion Measuring Set DMS-3 carries a warranty for five (5) years. The warranty provides for all labor and materials required to repair a defective unit the first year after date of delivery. During the next four (4) years, all defective materials will be replaced by Atlantic Research. The customer will pay a minimum fee for replacement. All warranty repairs, except for certain fixed installations, will normally be made at our plant located in Alexandria, Virginia.

THE WARRANTY IS VOID WHEN A UNIT HAS BEEN SUBJECTED TO ABUSE, NEGLECT, ALTERATION, OR IMPROPER INSTALLATION.

Fixed Installation. Teleproducts Field Engineering is available to care for problems which may arise from the operation of Teleproducts equipment. If these problems exist in the Teleproducts equipment, the above warranty prevails. If the problems are due to other equipment working into the Teleproducts equipment, a minimum charge will be made.